The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. XL. TORONTO, JULY, 1916 No. 1

Editorials

MOVING PICTURES IN THE SURGICAL WORLD

The members of the Ontario Medical Association were greatly charmed at the recent meeting with the exhibition of moving pictures as shown by Drs. J. A. Wyeth, John A. Bodine and C. H. Chetwood, of New York City, illustrating the surgical technic as used in the New York Policlinic. The use of moving pictures in the teaching of surgery is indeed novel, and greatly interested a large crowd of medical men.

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Anyone who has been present at a surgical operation will vouch for the truth of the statement that it is impossible to see enough of the field or the surgeon's fingers to call the case instructive. The only persons who actually see the whole technique are the surgeon and his one or two assistants. Even then, much is determined only by palpation. How can students in their third year learn from such imperfect demonstration? The only saving feature is that their general knowledge of anatomy, plus the sur-

geon's cunning commentary on his own findings, stimulating their imagination, helps them to form a fair picture of the whole.

At the New York Policlinic very wonderful work has been done for the large classes of physicians who turn their steps thither for post-graduate instruction in surgery. Prof. Wyeth and Dr. Bodine have each operated before the moving picture camera so as to show the whole technique of their special operations, and now the work is committed forever to the screen, where anyone may, by simply turning a handle, project a picture of any part of the event, whether it be to learn what instruments are employed, on the neatly set instrument table, or in what order the incisions, ligations, etc., are made. It is very marvelous to see the tiny vessels spurting, and quickly tied off. Only the actual field, occupied by the surgeon's hands, is shown. Nothing is passed over or lost. Every step is revealed. When Dr. Wyeth does his famous bone transplantation, using his electric burr to remove a useful piece, from the tibia, ordinarily, to graft on a spine in Pott's disease, or again to fill in the void in an ununited fracture, one can really see the "chips" fly, as he calls them, meaning the fragments of bone dust. When Dr. Bodine does a prostatectomy or removes a ureteral calculus, one can discern every bend of the wrist, and see even the jagged points of the stone.

This only requires, then, in addition to the classic operation, a classic description of the operation,

which could be dictated later by the brilliant men who have discovered and applied these principles, and simultaneously with the picture projected on the screen, in order to constitute a splendid method of teaching the first lessons in surgery.

It is a very familiar fact that students do not habitually make the most of their college course. The personal element in a hospital affects the student so greatly that many lose valuable details, to be acquired later, at enormous cost to themselves and their patients. They come in large groups to witness operations on tonsils, eyes, ears and so forth, and being now so young, and so much exhilarated by the fresh air of their walk, their companionship, and the *personnel* of the operating room, they do not concentrate their attention. But the chief cause of this inattention is always overlooked. They cannot really see. The nurse who "scrubs up" and "takes instruments" for a surgeon year after year, never *sees* what he is doing, but gradually acquires a habit. The student has the opportunity, at best, of seeing only a couple of cases of every kind, and that only in a very myopic, astigmatic way.

The pictures shown at the Ontario medical meeting included the operation for amputation at the hip joint, the radical cure for hernia, and ligation of the external carotid artery. Every step in each was just as clear as if the onlookers had been seated in the front seat of the operating theatre.

To instal moving picture apparatus in all colleges for this purpose should be the next move of the prac-

tical-minded directors. The cost is small, little more than a Christmas gift for any ordinary boy. But their field of vision is enormously widened and cleared. They can now see the actual procedure, as well as the surgeon sees it. The unwinding of the film can be halted and repeated, to show a difficult step, *without hurting the patient.* Then, too, students can be called in turn to lecture on the operation often enough to get the details perfect before they are considered proficient enough to graduate into hospitals as internes, where they have nearly all greedily asked for the surgical service in the past. This is learning to do by knowing.

There is yet the famous learning to know by doing, which is actually performed in their interneship.

Phonographic records would be an excellent substitute for words written on the screen, having that enthusiasm and emphasis which letters do not possess. But their expense might be an item, when one considers the length of some operations.

As to the whole system, it is nothing more than thousands of public schools are doing on a very extensive scale, to teach the industries and arts of all nations. Why not the sciences?

THE ONTARIO MEDICAL ASSOCIATION

Nearly five hundred registrations, splendid papers and genuine *esprit de corps* made the 1916 meeting of the Ontario Medical Association an achievement worthy of the highest praise, and a pleasant memory to those who attended. Dr. H. B. Anderson was a president well chosen, and in his presidential address, which appears in this issue, showed breadth of viewpoint and clear understanding of the subjects touched upon. The social side of the meeting was also very delightfully arranged for, and some of Toronto's beautiful homes and gardens, aglow with the beauty of lilac time, and the welcome of gracious hostesses, gave a touch of charm and nature that "makes the whole world kin."

So inspiring and interesting has been the meeting that on all sides the cry was: "Let there be an Ontario Medical Association meeting each year, entirely independent of the Canadian Medical Association." Whether it is the enthusiasm born of the great success of the hour or the persistent spirit in the air calling for the independence of the smaller nations, and consequently the individuality of the lesser Associations remains to be seen when, after the war, the Canadian Medical Association meets again. Who then will be up and doing? The answer as yet must remain on the knees of the gods.

One of the outstanding features of the meeting this year was the great privilege afforded the members of the Association in listening to the distin-

guished guests from the United States, whose addresses gave new light on many subjects, both Medical and Surgical. As "all people that on earth do dwell" are taking a post-graduate course at "the movies," it was only fitting that men in the world of surgery should, through the eye to the mind, transmit every detail of the most intricate surgical procedure by the use of the film. The pictures shown by Professor Wyeth, Drs. Chetwood and Bodine were the first of the kind to be shown in Canada, detailing such operations as Amputation at the Hip Joint, Ligation of the External Carotid Artery, The Radical Cure for Hernia, etc. Dr. Price of Cleveland also showed some films on Conditions in the Mouth Causing Serious Infection. The Military Section had a very interesting session, at which a large number of those in attendance appeared in khaki.

The meeting had, of course, its element of loneliness, but it was wonderful considering the strain that the whole community is passing through, as hour by hour the greatest drama in this Old World's history is being staged in the lands across the seas. In the great caste are many players from the ranks of the Ontario medical profession. May the last act soon be over, and the curtain go down, never again to rise in a theatre of war.

COLONEL JOHN T. FOTHERINGHAM, C.M.G.

THE NAME of Colonel (Dr.) John T. Fotheringham does not need the embellishment of a title to make it honored in his own country. But Canada has spoken in tones that command attention, through such unselfish and capable men as our esteemed collaborator, John T. Fotheringham, to the nation across the sea, and the "Old Grey Mother" has smilingly and with gratitude honored the man and, in doing so, the Canadian.

To Colonel (Dr.) John T. Fotheringham, C.M.G. —All together and "a tiger."!!!

Canadian Journal of Medicine and Surgery

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Original Contributions

THE ONTARIO MEDICAL ASSOCIATION: PRESIDENT'S ADDRESS

BY H. B. ANDERSON, M.D.

In accordance with the Constitution of the Ontario Medical Association, it is the duty of the President to address the annual meeting, setting forth the condition of the profession in the province. The difficulty confronting one at this time is not to find topics suitable for discussion, but rather to select from among the multitude of important matters which suggest themselves those of most immediate and pressing interest, and attempt to consider them with due regard to their relative importance. While I deeply esteem the honor of having been elected to the presidency of the Association, one cannot but appreciate the difficulty of doing justice to the position, or of rising to the responsibilities and opportunities of so critical an occasion in our national and professional history.

We are meeting at a time pregnant with the most momentous issues since the dawn of the Christian era, under the shadow of the greatest calamity in history, with our Empire and her Allies engaged in a death struggle to uphold the cause of freedom and justice against a military despotism which, in the guise of kultur, is seeking world power with the ethics and by the methods of the barbarian.

Those who have admired, perhaps too highly, German learning, scientific achievement, energy and genius for organization, have lived to see all of these directed by an ambitious and cruel autocracy, abetted by subservient professors, clergy and publicists, and prostituted to the basest of material ends. As members of a profession which has acclaimed German discoveries

that have saved thousands of human derelicts, we must hereafter charge the autocratic system which encouraged their scientific achievements with the subordination of all the resources and capabilities of the nation to an aggressive war, which has led to the slaughter of millions in the flower of manhood; and reflecting on this we shall in future be more appreciative of the blessings of democracy, even with its attendant muddling and inefficiency. Well may we pray to be delivered from the blessings of kultur and efficiency if they must be acquired by the sacrifice of freedom, of honor, and of those principles of religion, ethics and morality which have served in the past as standards by which men and nations are judged.

In the presence of these great events monopolizing the attention and absorbing the energies of our people, all other interests fade into insignificance. And yet we must not neglect "the daily round, the common task," as we look with confidence beyond the present struggle, but prepare ourselves in every department of our national life for the stern competition of the period of reconstruction and advancement which will inevitably follow.

On this occasion we miss the familiar faces of many of our colleagues who in answer to their country's call are now on duty overseas, in the Motherland, in Flanders, France, Greece and Egypt, and we are proud of their record. "The members of the Canadian Army Medical Corps," as recorded by the official historian in describing the battle of Ypres, "rivaled in coolness, endurance and valor the men of the battalions who were their comrades."

Important duties also have fallen to those who are left behind, in organizing and manning the medical services of units preparing for active duty; in ministering to the medical necessities of the dependents of our soldiers, and not least, in giving their services for the restoration to health and usefulness of the sick and wounded who are returning from the front. The burden cheerfully undertaken by the medical profession of Canada has been a heavy one, and we believe has been creditably borne.

I feel assured indeed that I express the feeling of every member of this Association in saying that we regard it not only as a duty, but a privilege to do what we can toward the restoration to health and usefulness of our brave countrymen now re-

turning, whose heroic deeds have won imperishable fame for themselves, and shed enduring lustre on our country. To them Canada may fittingly apply the words of the poet of the Yukon:

"I will not be won by weaklings, subtle, suave and mild,
But by men with the hearts of Vikings and the simple faith of a child;
Desperate, strong and resistless, unthrottled by fear or defeat,
Them will I gild with my treasure, them will I glut with my meat."

An unusual feature of the present meeting will be the military session arranged with the collaboration of the Military Hospitals Commission and the officers of the Army Medical Corps in this district. While there will be a number of papers on medical topics of present military interest, the chief purpose of the session will be a discussion of the "invalided soldier problem" in all its bearings, so as to bring before the doctors of the province the importance of the question and the aid which they can render toward its solution. That our efforts so far are not unrecognized is evidenced by a letter recently received from the chairman of the Military Hospitals Commission, in which he says—"that the Government of Canada is indebted to the Ontario Medical Association for its interest and to the medical profession for the splendid spirit which they have shown."

If our deliberations assist in co-ordinating the military, medical, vocational and employment aspects of the situation, and in evolving a more efficient and uniform system of management in the various Military Convalescent Hospitals and subsidiary institutions, an important object will have been attained.

The war has brought us many disillusionments, has impressed many stern lessons, given us a wider national perspective, a keener vision of the responsibilities of citizenship, and stimulated a wholesome spirit of sacrifice to the common good. Those who have seen the beneficial influence of military training on the development of the physique and discipline of our young men, whatever may be their views regarding compulsory service, are unlikely hereafter to overlook the advantage to the nation, not only in a military but in a material way, of compulsory mili-

tary training. A properly trained and disciplined manhood will not only increase individual efficiency for civil duties, but will go far to solve the problem of national preparedness.

We are indebted to Professor Blackader for having brought forward another lesson of the war, viz., the question of drugs and medicinal agents from the national, economic and professional standpoints, a matter which should receive the serious attention of the Association. Who can estimate the influence on the present war of the amazing lack of foresight which permitted Germany to appropriate to her advantage the discovery of the aniline dyes by Sir William Perkins? This one shrewd deal added a billion dollars a year to the national wealth of Germany, increased immeasurably her scientific prestige, gave her first place in the world's trade in drugs and dyestuffs and assured her early in the war the advantage in high explosives. The responsibility for so great a blunder does not rest upon our profession, though we must admit that no feature of the centrally organized and far-reaching system of pan-German propaganda has been more successful than the exploitation of the university men of other countries in the interests of her campaign for military and commercial supremacy. No one will be disposed to speak lightly of the value to medicine of the scientific output of German laboratories, though we may properly plead for a more discriminating judgment in separating the wheat from the chaff, and especially for a less complacent acceptance of the literature of German commercial houses as the gospel of science.

Neither should we recognize a dual system of medical ethics under which state-controlled professors in German clinics may advertise in text-books and trade literature patented or trade-marked preparations, in a manner contrary to our code, nor should we allow ourselves to second their efforts by prescribing those products as if there was some peculiar virtue attached to all things medical emanating from the fatherland. Now, when the spell of the superman is broken, when even our academic Olympians, beguiled by flattery or tempted by self-interest, are perhaps aware of the true inwardness of German intrigues, and when those who control our universities are awakened from their dreams of an era of scientific advancement under the direction of exchange professors approved by the Prussian Ministry of

Education, will be an opportune time to consider more sympathetically the rights, interests and scientific possibilities of our own people.

More especially should we oppose the sale of common drugs, marketed in fancy packages under fancy names and at fancy prices. Some of these abuses can be controlled by legislation; some by a stricter adherence to our ethical code, or, if necessary, by revising it so as to be fairer to our own manufacturers; much can be done by an educative campaign, not only for the benefit of the medical profession but the public, to make known the kind of competition we have to face and the best means of meeting it; and perhaps most important of all, by our medical schools giving to students a more thorough grounding in practical therapeutics, such that they may not be left after graduation to be instructed in the use of drugs by the literature and agents of manufacturing chemists. The medical and pharmaceutical professions should be more closely in touch with the manufacturers and exercise more control over their products, by encouraging their legitimate activities and enlisting their assistance in supplying real professional needs. I am fully convinced that a more sympathetic co-operation should replace the present aloofness of our professional and scientific men from manufacturing and commercial interests, and that this could accomplish much for the benefit of all concerned. The medical profession should learn, however, to place its dependence on the carefully appraised preparations in our national pharmacopeias, which should contain all really useful remedies, rather than in the commercially-biased catalogues of drug houses, with their too-frequent irrational polypharmacy. Other countries should not forget that in Germany everything is subordinated to military efficiency, and that in supporting even her legitimate activities, they are contributing to her aggressive designs.

In the task before us we should cultivate a self-respecting national spirit, avoiding equally the attitude of the superior cosmopolitan,

> "The sturdy patriot of the world alone,
> The friend of every country but his own,"

and the reverence for antiquated inefficiency and smug self-confidence, which at times parade as patriotism. Neither should we be so blind to our own interests as to neglect to profit by the lesson Germany has given us of the necessity for laborious study and investigation, of strenuous and concerted effort, scientific organization and co-ordination of national aims, and the value of their direction by experts in the different spheres of activity.

Turning to matters of local interest, the most important are those being considered by the Commission on Medical Education, appointed last autumn by the Provincial Government. It is expected that the report and recommendations of the Commission will be made the basis for legislation which will settle many important questions that have been pending for some years.

Foremost among the questions being considered are all matters relating to education for the practice of medicine in the province. Recent years have witnessed a rapid evolution—the passing of the old proprietary schools, the lengthening of the course of medical study, the addition of many full time professors to the teaching staffs of our schools, the extension of laboratory facilities for the teaching of the fundamental sciences, the beginning development of libraries and the erection of commodious hospital buildings. As in other parts of the English-speaking world, the course of events with us has been influenced by the reports on medical education of the Carnegie Foundation and the Royal Commission of the British Government. The contention, on pedagogic grounds, that medical education should be considered an educational rather than a medical question, thus separating teaching more widely from practice, the movement for the appointment of full time professors in the clinical departments and the far-reaching schemes of Germany to create centres of propaganda in our universities, have all been lively topics of interest. In the midst of this evolutionary unrest the outbreak of the war has added to the confusion, and the most sanguine would scarcely claim that a satisfactory conclusion has yet been reached. Thus far we appear to have adopted a compromise between the British and continental systems, incorporating the worst features of both and the advantages of neither. The clinical branches in our hospitals still suffer from the lack of laboratories, properly equipped and manned for the study of

the problems of the wards. Those having the interests of clinical progress at heart, however, will confidently expect the fulfilment of the Government's promise that the enquiry will be an exhaustive one, that all interested will have an opportunity of expressing their views, and that the Commissioner's report based thereon will remove many defects in our present system of organization.

The position taken by the representatives of the Ontario Medical Association and other medical organizations, regarding the legislative recognition sought by osteopaths, chiropractors and other cults, upholding the principle of a uniform standard of education and examination for all who wish to practise medicine in the province, is well known, and calls for no special reference on this occasion.

Never in the course of history has there been such a demonstration of the national importance of a thoroughly trained medical profession as during the present war. The service which scientific medicine has rendered in protecting our soldiers against typhoid fever, dysentery, cholera and other scourges of armies, has saved tens of thousands of lives and trebled military efficiency.

Ask our wounded soldiers who have been made oblivious to suffering during operations under ether or chloroform, or whose pains have been eased by morphia, what they would think of "drugless treatment" at the front? Should our colleagues then, who under danger and privation are rendering such services, at great personal sacrifice, have their interests at home unnecessarily jeopardized by the granting of special privileges to the uneducated or poorly trained output of foreign proprietary institutions, that are unable or unwilling to meet the requirements for preliminary education and professional training, exacted of the graduates of our own and other recognized universities? Let us remember, however, that it is not sufficient that we ourselves are assured that we seek only what is just, and in the public interest; we must be prepared to defend our cause, keeping in mind the words of Sir Thomas Browne "that a man may be in as just possession of truth as of a city, and yet be forced to surrender" if unprepared to back up his principles by intelligent action.

It would be well at this critical juncture in our professional history to recall the chaotic condition of medical affairs which existed in the province prior to the organization of the College of Physicians and Surgeons in 1866. At that time the public clamor for protection against the prevalent quackery forced the government to take action, and the universities and different medical bodies to unite in establishing a representative institution of the profession to control the curriculum, examinations and practice of medicine in the province. The lapse of time, and the criticism frequently directed against the management of our affairs by the College of Physicians and Surgeons, has caused some to forget too readily "the pit whence we were digged" and the large amount of valuable constructive work which we owe to that body. The medical profession of the province should be slow to admit its own incapacity for self-government. For this reason I believe the movement to make the medical degrees of our universities qualify the holders for the right to practise, is to return to a system which has proved a failure in the past and from which the universities, the profession and the public at large all sought deliverance. We should, therefore, endeavor to maintain the *entente cordiale* and to co-operate for the general good, rather than by magnifying difference, cause a cleavage between the universities and the profession and thus leave ourselves more vulnerable to attack by the enemies of medical progress.

The adjustment of difficulties arising out of the present duplication of examinations should be possible without such radical changes as would endanger the rights and privileges of self-government now enjoyed by the medical profession.

In some of our universities the non-clinical departments, those having in charge the fundamental scientific and theoretical rather than the practical aspects of the training of students, it is well known, exercise a preponderating influence, and clinicians and practitioners alike should view with misgivings any tendency to place the control of the profession more fully in the hands of those who neither by training, experience nor circumstances are closely in touch with the requirements for efficient practice.

Another live topic for discussion at present is the administration of the Workmen's Compensation Bill. This law has now been over a year in operation, and has occasioned much dissatisfaction and resulted in many protests from medical practitioners, who have been either inadequately remunerated or unpaid for their services. The injustice of the bill has not yet been fully experienced, because many manufacturers still pay the medical attendant for his services to employees, as they did before the inauguration of the present law.

It is satisfactory, however, to state that both the Compensation Board and the Government, aware from experience elsewhere that the hearty co-operation of the medical profession is essential for the success of the scheme, have shown a willingness to consider fairly the grievances complained of and to adjust matters on a more equitable basis. The failure to pay properly for medical attendance has naturally resulted in a large surplus in the first year's operation of the scheme, which makes it imperative for us to press for fair consideration at this time. It would be regrettable if any avoidable friction arising from a sense of injustice should impair the usefulness of a progressive and necessary measure.

The question of medical fees, a subject of perennial interest to both the public and the profession, is one of the matters being considered by the Commission on Medical Education, and I may, therefore, be pardoned for referring to it. Whatever truth there may be in the complaint against excessive fees charged in individual instances, it can be stated without fear of contradiction that the remuneration of the great body of practitioners has not begun to keep pace with the expense of acquiring a proper medical education and the increased cost of living in the province. A comparison with tariffs published in Toronto in 1839 and 1886 will prove that in many cases fees are actually lower now than at those periods. Nor have ordinary medical fees increased in proportion to the cost of maintenance in the public or private wards of hospitals. One cannot but sympathize with the burden imposed on people with moderate incomes, in procuring proper medical and surgical attendance, hospital accommodation and nursing under present conditions, but the fault lies

with the other developments of modern practice more than with the doctor.

It is well known that no body of citizens has labored so unremittingly for the promotion of preventive medicine and the public health, regardless of their own financial detriment. The medical profession also has borne without complaint the burden of attendance on the indigent sick, and too frequently as well, on impostors, who pass as such in order to escape their financial obligations. We may justly claim that mercenary motives have always discredited a man in the eyes of his professional colleagues, and that he who would make the acquirement of gain the chief object of his calling would be well advised to seek another field for his labors.

In no class of illness is the financial hardship so apparent as in the management of nervous and borderland psychopathic cases, in which the usual prolonged duration, the necessity for constant attendance of nurses and the procuring of suitable accommodation, often tax the resources of the family to the utmost degree. I believe that general experience warrants the statement that one of the most urgent needs in the province at the present time is the provision by the Government of suitable accommodation at a moderate price for the proper control and treatment of borderland nervous cases, incipient or temporary insanity, inebriates and drug habitues.

The complaint is heard occasionally among our more prosperous citizens that, like the butcher and baker, the doctor should charge the same fees to rich and poor, but if they would recall the fact that the poor to a considerable extent receive free treatment, the impossibility of adopting such a rule would be obvious.

I hope I may now be pardoned for referring to something more in the nature of a family affair, viz., the disproportion between the remuneration of the surgeon and specialist as compared with the physician and general practitioner. This is freely admitted by all, and the opinion was embodied in a report adopted by the Ontario Medical Association a few years ago. This disparity is undoubtedly one of the causes underlying the pernicious custom of fee-splitting, by which less scrupulous members of the profession arrange a secret adjustment of the diffi-

culty—a practice we believe never very common in this province, and of which happily even less is heard in recent years.

There seems no good reason why the present inequality should continue. The basis for remuneration of physician or practitioner and surgeon in a case should be the relative value of services rendered. The present custom, in cases requiring surgical operation for their relief, tends unduly to exalt the mechanical or technical phase of the operative procedure, and to minimize the importance of the preliminary investigation, the diagnosis and the after treatment. This is certainly not in the interests of either medical or surgical progress. The properly trained practitioner or physician to whom the patient first applies for relief should be the one most competent by training as well as circumstances to direct the latter aspects of the procedure, recalling the surgeon for consultation if in his judgment the interests of the patient require it.

Under such a plan it could be arranged to have the fee charged in a given case cover the whole procedure of preliminary investigation, diagnosis, operation and after treatment, and the remuneration of practitioner and surgeon determined by a previously considered and established value attached to each part of such a procedure. Under all circumstances the interests of the patient should be considered of first importance: there should be no secrecy, and the relative remuneration of each attendant should be determined by the services actually rendered and in accordance with a generally accepted rule. I suggest this merely as a possible equitable and ethical basis of adjustment in keeping with the interests of the patient, and fair alike to medical and surgical attendants.

In reviewing the present condition of medical affairs one cannot overlook the nursing problem, which is one of increasing difficulty, especially in private practice. Training schools for nurses connected with hospitals throughout the province have accomplished admirable results in raising the standard of training and supplying highly qualified professional nurses.

One must regret, however, a tendency, especially among recent graduates, to limit their professional work to hospital or other selected practice, where the work is easier, rather than to answer the call of duty wherever it may be. This is not in keep-

ing either with professional ideals or a correct sense of duty, and if continued will assuredly tend to lessen the usefulness of the nursing profession and lower it in the public esteem. It is a custom which should be discouraged alike by hospitals, training schools and the profession at large. I would suggest a lower scale of fees for those who will undertake only selected work, as a practical means of remedying the difficulty.

Important progress in the domain of public health may be reported during the past year. Through the generosity of Col. A. E. Gooderham, the Department of Hygiene of the University of Toronto has been enabled to undertake the manufacture of various antitoxic sera and vaccines, and by the enlightened and public-spirited action of the Provincial Government, arrangements have been made for the gratuitous supply of these products through the profession. In this way will be placed more readily at the disposal of medical men the means provided by modern scientific investigation of dealing with different infective diseases.

It is also worthy of note that a local manufacturing company is now furnishing a product—diarsenol—which experience has shown to be a satisfactory substitute for diarseno-benzol. The commendable attitude of scientific and clinical men of the university staff in promoting this enterprise stands in pleasing contrast to a lack of encouragement heretofore frequently complained of, and, we trust, marks the beginning of a new era in the evolution of a policy of general application, rather than being merely one of the vagaries of the fairy godmother.

It is a matter of satisfaction to the profession that arrangements have been completed during the past year providing for reciprocity in medical registration between Great Britain and this province.

In order that we may be able to bring the corporate influence of the profession to bear in maintaining the status of medical practice, in directing aright the many problems now in course of adjustment, and in guaranteeing to the people the increasing benefits of modern practice, it is essential that we be well organized. I am glad to report that much progress has been made in this direction during the past year, and that we now have a fairly complete provisional organization throughout the province.

Thirty-five local city, town or county societies are at present in existence, and ready to affiliate with the Ontario Medical Association. A provisional constitution has been drawn up to be submitted for the consideration and approval of the Association. There is still in some quarters a remarkable apathy to matters of crucial importance, but signs are not wanting of an awakening, which it is the duty of this Association to hasten.

We are pleased to have with us on this occasion the Executive Council of the Canadian Medical Association, and trust that our combined meeting may help to remove misunderstandings and to strengthen the bonds between the two Associations.

May I also express to our distinguished American visitors the great pleasure their presence affords us, and how much we appreciate the readiness they have shown to contribute to our programme, especially at a time when we are handicapped by the absence of so many of our own members. We take it as a further evidence of the feeling of kinship, common interest and sympathy existing between our countries, and which is so happily marked this year by the celebration of a century of peace.

It may be of interest to you gentlemen from the neighboring republic to know that there is now in this city a regiment of eleven hundred of your countrymen preparing to enter the fight to uphold those principles of freedom and justice dear alike to your country and our own.

We in Canada share a common belief that after the war the great centre of scientific medical interest and activity will be on this side the Atlantic—American in the widest application of the term—and those who have watched the wonderful progress which medical science has made in the United States in recent years will have no misgivings as to your qualifications for leadership.

To our fellow-countrymen who have come back after winning distinction in medicine under another flag we extend a hearty welcome. You will not find the Canada you left a few years ago the Canada of to-day, but a country chastened by recent experiences, conscious of great responsibilities, purged of many faults, yet quickened in every fibre of her national life, proud of her sacrifices for the Empire and humanity, and confident of her future.

It is a part of our national creed that what the nineteenth century was to the great neighboring republic the twentieth century will be to Canada.

The foundations of medicine in Canada were laid a century ago by the army surgeons who saw service in the war against Napoleon, and we may look for a similar influence in our further evolution to be exerted by those of our number now in service in the greater struggle against the Kaiser. The spirit of freedom and love of liberty which has called them to duty overseas will return with them accentuated by their experiences, to withstand injustice and tyranny from whatever quarter it may appear, to oppose weak submission to wrong and to assist in promoting a worthy national sentiment.

In conclusion, may I express to my fellow-officers of the Ontario Medical Association my deep sense of obligation and gratitude for the loyal support and co-operation accorded me in arranging for this meeting, under difficult and at times discouraging circumstances.

MOTION STUDY IN SURGERY *

BY FRANK B. GILBRETH, PROVIDENCE, R.I.

THE real subject of this paper is "Motion Study in Surgery," although it is listed in the official program as "The Standardization of the Surgical Clinic." I will state at the outset how we happened to undertake our campaign for revolutionizing hospital procedure and management.

It was after hearing a most entertaining and instructive lecture on the subject of "Scientific Management" by its founder, Dr. Frederick Winslow Taylor, M.E., Sc.D., in which he stated that the surgeon was the best mechanic and the best teacher of the learners of anyone in any craft—that we decided to make a special investigation of this subject from a motion study standpoint for the special purpose of adding to our data such methods

*Delivered before the Hospital Section of the American Medical Association.

for the transference of manual skill and experience from any expert who has had such experience to a learner who has not.

Dr. Taylor's ideas of the manual dexterity and highly efficient standardized methods for the transference of skill in the surgical profession did not agree with my recollections of two hundred or more important operations that I had observed in large hospitals of the highest rank in 1884-1885, or of the five experiences I personally had in hospitals, or of my experience while building new hospitals and additions to several old hospitals, which brought me in constant contact with surgeons and hospital management. We, therefore, proceeded to investigate the hospital from the standpoint of transference of skill, motion study, and measured functional management, that we might learn any advanced methods of teaching the trades for use in connection with our work of installing scientific management.

After visiting some of our most prominent hospitals, we found that the surgeons could learn more about motion study, time study, waste elimination, and scientific management from the industries than the industries could learn from the hospitals. We then and there decided to make a vigorous campaign to revolutionize the present methods of hospital management, and to teach surgeons our methods of motion study, that waste in the transference of skill in surgery might be eliminated, and that the best methods in the mechanical trades of the industries might be available and at the service of the surgeon and the managers of the hospitals.

We have since studied many hospitals, some as far west as California, as far north as Toronto and Montreal, as far south as South Carolina, as far east as Germany. In each hospital, while recording existing methods, we have tried to create interest in the subject of motion study and intensive methods for obtaining mental and manual efficiency in teaching and practising surgery, and in changing the management so that the methods of the best may be recognized, standardized, and available to all. In the beginning our investigations caused much laughter, and we might have been completely routed by the derision and criticism encountered, if we had not had measured facts to guide us instead of tradition, personal opinion, and "judgment" ("judgment" being too often the mere selection that comes from famil-

iarity with too many wrong methods). We are pleased to see that many of the doctors whom we interviewed are now (1913-1914) members of committees on hospital efficiency, who are recommending the beginning of actual campaigns to do that which some three years previously was considered a joke, and in some cases an impertinence.

In studying these many hospitals we find the conditions, as a rule, much worse from a managerial standpoint than in the average factory, and some hospitals are so bad that they should be actually closed immediately.

But the object of this paper is constructive, helpful criticism, consequently we will leave all other kinds, for the present at least, and proceed immediately to explain to you exactly what the process is for obtaining standards of least waste in any profession, trade or industry.

The standardization of hospitals is now gradually being recognized as desirable and necessary. Such standardization must be based on measurement, which, so far as the manual processes of the surgical clinic are concerned, consists mainly of Motion Study.* It is upon this that we shall chiefly concentrate to-day, showing the exact relation of this measurement, as made by Motion Study, to standardization, and tracing the results which will come from it.

Motion Study concerns itself with the investigation of activity and rest, and with an attempt to accomplish the most of a given quality of output with the least expenditure of time, energy and fatigue. The three main divisions of Motion Study pertain to:

1. The worker:
2. His equipment, surroundings, and tools;
3. His motions.

Data relating to Motion Study in any one kind of work are usable in every other kind of effort, and the surgeon furnishes in every respect the ideal example to be motion studied, for the four following reasons:

*See "Motion Study." D. Van Nostrand, New York.

A. As a worker, in that he is the most interesting of all mechanics; the motions that he makes being the most delicate, the most interesting, and the most far-reaching in their importance.

We have already discovered sixty distinct *variables* of the worker, and investigation shows that this forms but a partial list. These variables are physiological and psychological; and it was the latter group that led us to make our investigations in the psychology of management, which have proved so valuable in standardizing methods of transmitting information and experience from the superskilled to the skilled and the unskilled without any loss in transmission.*

B. In his equipment, surroundings, and tools. Because of the importance of his work, these should receive more attention than those of other workers, and it is generally conceded that any amount of time and money spent upon their study is well justified.

In spite of this fact, as yet, the tools of the surgeon have not been standardized in any satisfactory way. Any mnemonic classification made of the tools of a hospital shows that the tool situation is positively pathetic and ridiculous, this present state being the outcome of the incentive which ever exists to design special tools. This condition can be realized only by subjecting the present tools to the tests of motion study.

The natural laws and underlying principles relating to efficiency resulting from the design, selection, standardization, care and use of tools are as clearly defined as the laws of mathematics, and these laws are the same for all tool users, all trades and all professions, though they vary in degree in their application. The possibilities of increased efficiency resulting from a scientific investigation of tools in any kind of work can be best appreciated by studying Dr. Taylor's classic, "On the Art of Cutting Metals."*

Great practice with comparatively few tools is one of the laws of the most efficient use of tools. How does this compare with

*See "Primer of Scientific Management." D. Van Nostrand, New York.
*See Transactions American Society of Mechanical Engineers.

the custom universally present in surgery to-day? The average doctor usually considers that the possession of specially designed tools is a desirable asset. The constant incentive under present conditions in surgery is to design more tools, since the designer receives credit from the public, and sometimes also from his co-workers, and occasionally has the honor of having the new tools named for him. Naturally, the greater the number of tools, the less must be the practice with each; the smaller becomes the chance of having a standard tool which is used by all, and the skilled use of which becomes the part of the learning and practice of all. At present many individually owned, specially designed tools vary so slightly from the instruments of the hospital that the operating room nurses acknowledge that they continually get them mixed up with the instruments furnished by the hospitals for the same kind of operations. The general tools of the hospital are by no means as carefully selected as are those of the trades and factories. Gradually increasing quality of standards will not come by the practice of each surgeon designing new tools without a complete survey of all such tools now in existence. Instead there should be one central, specially equipped laboratory for measuring, testing and comparing all new designs with existing standards.

The standardization of the tools alone is not sufficient; equipment and surroundings must be subject to the same process of measurement and standardization. The standardization of the location of the large pieces of equipment and the arrangement of the small pieces and tools in an obvious sequence, that new cycles of motions may have that speed that comes with long practice due to the standardization of the location and habits of sequence, has already been determined with great accuracy. These laws apply to the motions of surgery just the same as to all other work. Some may say that other things are more important in surgery. To this we reply that our Motion Study standardizations in no way interfere with the other processes of the surgeon or his clinic, and we *now* have gone far enough to see that we can save more than ten per cent. of the time that the patient is under ether in the average operation, and at the same time give the surgeon *more* time to do his work and with less distraction. In no way does the increased efficiency due to

Motion Study "speed up" the surgeon, nor give him more to think about at the critical times. On the contrary, Motion Study standardization will permit longer periods for the surgeon and his assistants and attendants to keep their eyes on the foci of attention.

C. The motions used by the surgeon offer the most fertile field of investigation, in that they also are at present in a surprising state of lack of standardization.

D. Most important of all, the surgeon is, psychologically, by far the most interesting subject possible for Motion Study. The product which he handles is the most valuable, his own attitude and that of all concerned has the most effect upon the outcome, and the effect of any changes made is the most deeply and widely felt.

A Manual Research and Standards Laboratory that would act as the central measuring station for analyzing and synthesizing present methods for acceptance as standards, and furnish definite methods of measurement for discovering better standards than exist anywhere either as a whole or as elements would cause progress in the surgical clinic unbelievable to-day.

The law for obtaining standards that automatically increase in efficiency consists of:

1. Finding the units in which to measure the desired standards;
2. Determining the methods of measuring the above units;
3. Securing such devices as will make the cost of measuring these units inexpensive.

It has been difficult to determine properly the units of measurement in surgery. The "cost per patient" has often been advanced as a unit of measurement and is apt to be the first unit mentioned when one talks hospital efficiency. Yet, but a moment's consideration will show that this unit is comparatively unimportant. The "cost per patient" really means nothing when unrelated to the result per patient or the total cost to society. Even as considered, it is seldom, if ever, thought of from more than one point of view, for who ever heard anyone

estimate the cost to the community for the patient's delay in having proper attention, or the "cost per visit *to the patient*" who comes to the outpatient department, and must visit the hospital at that hour when it is most inconvenient and most expensive for him to come.

Not to discuss further the "units of measurement" which cannot prove themselves fundamental, we will state at once that the *variable of the motion is the elementary unit of measurement of surgery*, and is the unit for determining the efficiency of the hospital. Until this fact is recognized the surgeon cannot possibly obtain methods of least waste. The variable of the motion is also the unit for measuring efficiency in the industries and in engineering works and where this is recognized in determining the methods workers have achieved astonishing increases in efficiency, sometimes as great as three to sixfold increase in productivity with better resulting product, less fatigue, and more durable satisfaction in the outcome. The motions of the surgeon are, then, the units that are to be measured.

Now exactly how do we determine these motions, and subject them to measurement? First, by analyzing activity into its various functions. This analysis is best visualized by examining the functional chart, which classifies graphically the investigations to be made by their various functions, each of which embodies some phase of individuality, and through it to discover ultimately the proper man to measure at that work which he is best fitted to perform as the "observed worker." In this manner the work of the surgeon can be divided among the superskilled, and it can be determined exactly whose motions are to be studied, and which of his motions are to be measured.

Having determined the unit of measurement, we must next apply the methods of measurement, which are Motion Study and Time Study. The primary aim of Motion Study is to determine exactly that element which should be tested. The primary aim of Time Study is to compare the various elements measured and to decide through their time duration exactly which ones should be selected.

The devices to be used in making these motion studies and time studies are determined largely by the type of work and of worker to be studied.

Time and Motion Studies may be made by various methods:

1. By the stop watch, or with various combinations of stop watches;
2. Through what we call "micro-motion study";
3. Through the cyclegraph method.

It is necessary for us only to explain the latter two methods to you in detail here. (Explanation and illustration.)

Having determined and tested the elementary motions, the next step in standardizing the methods of work is to select and combine these motions into standard cycles and these cycles into standard methods. In order that this may be done, we must decide, first of all, exactly what work is actually necessary. Now any working day consists of four parts:

1. Necessary work;
2. Unnecessary work;
3. Avoidable delay; } More or less usable for rest
4. Unavoidable delay. } necessary to overcome fatigue.

We have found by long investigation that to get the greatest output with the least fatigue the following must be noted:

a. All unnecessary work must be eliminated.
b. Each kind of work requires its own percentage of rest for overcoming the fatigue caused by that work.
c. Fatigue must be recognized, and rest periods must be provided for overcoming fatigue.
d. Each kind of work requires its own number of rest periods for the greatest output and least fatigue.
e. Too few rest periods will increase the total percentage of time that must be allowed for overcoming fatigue.
f. Too many rest periods in a given total of time of rest for overcoming fatigue will reduce the quantity of output with a given amount of fatigue.
g. Standard practice is less fatiguing than unstandardized practice.
h. Devices can be used to reduce fatigue of necessary work.
i. Devices can be used during the rest period to make quicker recovery from fatigue.

j. After the most economical periodicity of the rest intervals for the recovery from fatigue have been determined, the final step is to discover and standardize the motions of the method of least waste that make up the work intervals.

It is impossible for anyone who has made critical examinations of the histories of a typical day's work of workers in the industries not to shudder at the general practice in hospitals of causing unnecessary fatigue during the day's work. For one example, let us cite the unnecessary fatigue due to the present practice of confounding obsolete etiquette, unscientific discipline, and unnecessary fatigue in our hospitals.

Having determined exactly what work is necessary the elements may be combined to show how this work may be done in the most efficient manner. The result is the standard.

There are two ways in which the surgeon can contribute to this process of standardization:

1. By an intensive physiological study, which will help in determining the ultimate units to be measured in all activity.
2. By being the first and foremost to volunteer individually and as a body to submit his work to accurate measurement.

One hindrance to rapid progress in standardizing work in the industries has been the occasional lack of understanding of the aim of such measurement, and the consequent dislike in some instances, if not more active resentment, to having activity accurately measured. There is excuse for a man of the industries, who has not had the advantage of either a general or a special education, being opposed to something that is quite extraordinary, and new to him, and that has often been misunderstood. There is absolutely no excuse for the surgeon who rejoices in a general and special education which is broader than that enjoyed by any other profession in the world, not understanding exactly what the science of management is attempting to do, and not stepping forward as a body to lead the way in this great achievement of the twentieth century, and we call upon you surgeons to-day to volunteer collectively and individually, in as

far as lies with you, not only personally to help in the work, but to demonstrate to others its necessity and importance.

It is obvious that the results of your so doing will be a great help to science and a benefit to the entire world. It will mean the establishment of at least one standard hospital with standard practice, and the dissemination of standards, which is not to-day possible; it will mean a race of superskilled, each one trained with the best methods first, and ready to teach the work efficiently to others who are fitted for it; it will mean co-operation which is based upon a knowledge of what should be done, how it should be done, and who can best demonstrate and teach it; it will mean the elimination of waste so enormous that no other waste in the world equals it; finally it will mean the conservation and increase in the output of happiness minutes, the ultimate unit in which the work of the surgeons is measured.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

George C. Clark of New York was elected President of the American Society for the Control of Cancer at its Annual Meeting in New York on May 18th.

The new directors of the society include Dr. Charles J. O. Hastings of Toronto.

Society Proceedings

THE THIRTY-SIXTH ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION

The Thirty-sixth Annual Meeting of the Ontario Medical Association opened in the Mining Building of the University of Toronto, on College Street, on Wednesday, May 31st. The chairmen of the different committees and the General Secretary were at the building bright and early to welcome the out-of-town guests, who began to arrive as early as half-past eight. Dr. Clarkson's clerks were indeed kept busy in registering the members, both new and old, who flocked to the meeting, and it was at once seen that the 1916 convention was going to be one of the best in the history of the Association. It turned out to be just as expected, the total registration reaching the record of 451 members, and we take this opportunity once again of congratulating the retiring President and his committee on the magnificent success attained. It gives us pleasure to state, and we do this without any fear of contradiction, that the 1916 meeting was easily the best since the formation of the Association.

Though the programme called for the meeting to commence at 10 o'clock, on account of the crowd, it was practically impossible for the President to open the business session sharp on time. Shortly after 10, however, Dr. H. B. Anderson sounded his gavel and called the meeting to order. He addressed the already large gathering and welcomed each and every man to the meeting in a few exceedingly well-chosen sentences. It was easily seen that the President was going to make an ideal chairman.

The forenoon session was devoted almost entirely to business, and consisted of the formal Reading of the Minutes, the Reports of the Treasurer, Executive Committee and Standing and Temporary Committees.

The general session opened at two o'clock with a splendid address from Prof. A. D. Blackader of Montreal on "Drugs and Medicinal Agents, Considered from the Professional, Economic and National Standpoints." The large auditorium was filled when Dr. Blackader commenced his address, and we only wish we had the privilege of publishing it, but it had been promised for publication elsewhere. Dr. Blackader was followed immediately by Dr. J. F. Percy of Galesburg, Ill., who delivered the Address in Gynecology, entitled "The Problem of Heat as a Method of Treatment in Cases of Inoperable Uterine Carcinoma." Following Dr. Percy's address, Dr. Justus Matthews of the Mayo Clinic at Rochester, Minn., addressed the meeting on "Tonsillectomy, With Its General Results."

The President then delivered his address the same evening at 8 o'clock, and we gladly reproduce that address in this issue. It is an address unique in character and well worthy of careful perusal by those who were not privileged to hear its delivery. So great was the crowd on the evening of Wednesday that it would have been impossible to admit any more into the auditorium of the Mining Building, and we only regret that the Committee on Arrangements did not retain Convocation Hall for that evening. Following Dr. Anderson's address, Dr. Elliott P. Joslin of Boston delivered the Address in Medicine on "The Treatment of Diabetes." We hope to have the privilege of publishing this address in a later issue.

At this point we wish to express the keenest disappointment that, through a hitch somewhere and for which we wish to blame no one, we were not given the opportunity to secure the papers read and which we would have had abstracted for our readers. We trust that the Committee on Papers will after this see to it that each and every author has it impressed upon him that his paper as soon as read becomes the property of the Association and must be left with the General Secretary. Unless this is done it is quite impossible to keep a proper record of the annual meeting.

The Morning Session on Thursday, June 1st, was devoted to Section meetings. In the Medical Section Dr. Gordon Bates of Toronto read a capital paper entitled "New Arsenical Preparations in Syphilis." Dr. George E. Smith of Toronto devoted a

short paper to "The Treatment of Lues in Children." The Association were glad to have with them Dr. C. D. Parfitt of Gravenhurst, whose interesting and exhaustive paper was entitled "Indications for Artificial Pneumothorax." Other contributors that forenoon were Dr. J. P. Campbell of Napanee; Professor Miller of the Western University, London, and Capt (Dr.) George D. Porter of Toronto, who read a paper on "Anti-Typhoid Inoculation in Soldiers." Prof. Miller's paper was the result of much scientific work on "The Physiology of the Nervous System," and revealed several new facts and was discussed by Dr. Julian Loudon of Toronto.

In the Surgical Section papers were read by Dr. Ingersoll Olmstead of Hamilton on "Gall Stones," describing the various operations and complications, the discussion being opened by Dr. W. T. Parke of Woodstock. Other papers contributed were those of Dr. W. E. Gallie of Toronto on "Pyloric Stenosis in Infants," who pointed out that if unrecognized and not treated it was a fatal disease, though many cases treated medically or surgically get well. Of the cases operated on in his clinic, Dr. Gallie had 63 per cent. of recoveries; Dr. H. A. Bruce of Toronto, whose paper was entitled "Inflammatory Growths of the Bowel, Simulating Cancer"; Dr. S. M. Hay of Toronto, who spoke on "The Significance of Pain in the Diagnosis of Abdominal and Pelvic Diseases"; Dr. M. O. Klotz of Ottawa on "Appendicitis"; Dr. A. H. Perfect of Toronto on "Duodenal Ulcer"; and Dr. J. E. Hett of Berlin, whose paper dealt with "The Treatment of Cancer by Fulguration." Unfortunately, owing to lack of time, Dr. Clarence Starr's paper was deleted, and this paper, entitled "Intussusception," we hope to reproduce in an early issue.

The Section in Obstetrics and Gynecology included papers by Dr. J. A. Kinnear of Toronto on "Morphine and Hyoscine in Obstetrics"; Dr. Alan Brown of Toronto on "Blood Transfusion in Hemorrhage of the New-Born"; Dr. Unger of New York, who spoke on "The Apparatus Used in Blood Transfusion"; Prof. William Weir of Cleveland on "The Treatment of Dysmenorrhea"; Dr. J. F. Goodchild of Toronto on "Eclampsia"; and Dr. J. S. Wardlaw of Galt on "The Treatment of Eclampsia."

The Section in Ear, Eye, Nose and Throat met in Room 52, upstairs in the Mining Building, their programme consisting of

papers by Dr. Edmund Boyd of Toronto; Dr. B. C. Bell of Brantford; Dr. G. W. Grieve, D.D.S., and Dr. D. J. Gibb Wishart of Toronto.

The General Session at 2 o'clock was opened with the Address in Surgery, delivered by Professor Dean Lewis of Chicago, the title of the address being "Cystic Mastitis."

Considerable interest was manifested in an address on "The Treatment of Pneumonia," delivered by Prof. Solomon Solis Cohen of Philadelphia. In dealing with the question of treating pneumonia Prof. Cohen stated that his treatment was confined essentially to the use of quinine, a treatment which differed greatly from the ordinary treatment, in the using of large doses of quinine. In this respect he elaborated upon the fact that he gave larger doses than could be ordinarily taken by the normal patient. In relating some of the results attained Prof. Cohen showed that by his method the mortality from pneumonia, covering a period of over twelve years, had been a trifle less than sixteen per cent. He administered the doses by intermuscular injection rather than by the mouth. His idea was that quinine acted as a chemical antitoxine, and neutralized the poisons of the pneumonia organism. Prof. Cohen said that while many serums had been discovered that might be helpful in the cure of pneumonia, the right one had not yet been discovered that would take the place of quinine, but he looked for the time when a more efficient antitoxic serum would be found that would take the place of quinine.

Dr. John L. Davidson of Toronto, who opened the discussion, said that he had great faith in the use of quinine, but he had never used the injection method of administering it to patients.

During the latter part of the afternoon the Executive Committee arranged to have a large number of motor cars in front of Convocation Hall and took almost the entire Association to a garden party given by Mrs. Walter W. H. Massey at Dentonia Park Farm, East Toronto. The weather was simply ideal and there was not a member of the Association who attended the garden party but thoroughly enjoyed it, and the Association are under a debt of gratitude to Mrs. Massey for her kindness in the matter.

One of the pleasing features of the evening session was a

demonstration of the use of moving pictures in showing the surgical technic as used in the New York Polyclinic Hospital by Drs. John A. Wyeth, John A. Bodine and C. H. Chetwood. The pictures revealed the applied science of various operations, the first of which was confined to a bloodless operation of the hip joint conducted by Dr. Wyeth. The pictures also showed the injection of boiling water into a case of inoperable goitre, also a case of an injection of hot water into an inoperable angioma of the scalp, which showed that by this process it caused the tumor to shrink.

Dr. Chetwood showed moving pictures of an operation for the removal of a kidney, while a picture was shown of Dr. Bodine conducting an operation for inguinal hernia under anesthesia. The latter showed that by his method of operation not one patient had been lost in the last twelve years. He declared that by his method all risk was eliminated.

Dr. Bodine stated that the idea of using moving pictures had been introduced for the purpose of teaching medical students along advanced lines. He elaborated upon the fact that a large audience under ordinary conditions can only see what one or two men are doing in an operating room, while the moving pictures gathered every detail, which was sure to be beneficial to the student, who might overlook some important detail during the course of the operation. These pictures were accompanied by captions as seen in the ordinary moving pictures.

Dr. Weston A. Price of Cleveland gave an interesting paper on "Mouth Infections and Some of the Mechanisms by Which They Produce Localized and Systematic Diseases," illustrated.

The Association on Friday divided itself into Section meetings for the forenoon. The Medical Section was well attended and listened to an exceedingly interesting address from Dr. L. G. Pearce of Brantford on "Protozoal Infections." Dr. Charles MacKay of Seaforth read a paper on "Pernicious Anemia." Dr. W. H. B. Aikins of Toronto gave a very practical paper upon "Radium as an Accessory in the Treatment of Exophthalmic Goitre." Dr. H. A. Boyce, ex-Superintendent of the General Hospital at Kingston, contributed an article on "Arterial Hypertension."

The Surgical Section met in Room 32, the attendance being so large that those wishing to be present could hardly get into the room, the result being that the Section was moved into better ventilated quarters. Those contributing to the programme were Dr. J. M. Rogers of Ingersoll; Dr. E. Seaborn of London; Dr. T. H. Middleboro of Owen Sound; Dr. E. R. Secord of Brantford; Dr. F. N. G. Starr of Toronto; Dr. Angus McLean of Detroit; Dr. W. W. Jones of Toronto; Dr. N. A. Powell of Toronto; and Dr. J. K. McGregor of Hamilton. The papers given by Dr. F. N. G. Starr on "The Transthoracic Operation for Chronic Empyema and Bronchiectasis," and that by Dr. N. A. Powell on "Conservative Surgery in Injuries of the Hand," were of particular interest, and we hope to give our readers the benefit of them a little later in the summer.

The Section in Gynecology and Obstetrics had also a splendid attendance, and it must have been exceedingly gratifying to the contributors to find so large an audience. Among those who contributed were Dr. A. C. Hendrick of Toronto; Professor T. H. Morgan of New York, and Dr. K. C. McIlwraith of Toronto.

The Military Section was a new feature at the meeting this year and brought a large attendance, no doubt on account of the number of the profession in the city and elsewhere who are now in khaki.

The afternoon session was purely of a military character from the viewpoint of the medical man, with His Honor the Lieutenant-Governor, Sir John S. Hendrie, as the patron. One of the most interesting papers dealing with the "Effects of Poisonous Gases, as Shown in Returned Soldiers," accompanied with X-ray plates, was jointly given by Dr. J. H. Elliott and Dr. Harold Tovell, both of whom imparted information of a most interesting character.

Dr. Elliott stated that certain eminent German medical men had been experimenting for years in their laboratories endeavoring to obtain definite knowledge of the effect of poisonous gases upon animals; in fact such information had been imparted to the English-speaking world by Dr. Leonard Hill, a noted English physician, before the outbreak of the war.

In an address on "Cerebro-Spinal Meningitis Among Soldiers," Captain Fitzgerald and Captain McClennahan showed

that the most important thing in combating the disease was the use of a proper serum. Some of the bad results which had been brought to the attention of the military doctors were due to the use of an imported serum which was positively inert. This was attributable to the fact that so much blood had been taken from animals that the serum eventually lost its power and was practically useless for the purpose intended.

A number of papers were given in the various Sections in the morning. In the Medical Section Dr. L. G. Pearce of Brantford spoke on "Protozoal Infections," and discussed especially malaria, syphilis and sleeping sickness. "Pernicious Anemia," with reports of cases, was the subject chosen by Dr. Charles Mackay of Seaforth. In the discussion of this paper Dr. G. W. Ross said that he had found a streptococcus in the blood of four of the last five cases examined, and he believed that the organism found was a constant invader of the blood in this disease. The only cases which did well under treatment were those in which a transfusion of blood from a healthy patient had been performed.

Dr. Ernest E. Cleaver of New York, a former Canadian, described a method of duodenal feeding. He showed that by this method a small tube was passed by the mouth through the stomach and into the duodenum. The food passed through this tube into the intestines without entering the stomach.

The prophylactic therapeutic inoculation with respect to common "colds" was given by Dr. G. W. Ross and Dr. H. K. Detweiler. Both speakers showed that by this treatment "colds" could be prevented from developing. The method consisted in the inoculation of a mixed vaccine prepared from the culture of different strains of organisms obtained from patients suffering from "colds." Those who took part in the debate which followed were Dr. George W. Graham and Dr. Brefney O'Reilly of Toronto.

Notwithstanding the thunderstorms and showery weather, a large number of the members availed themselves of the kind invitation of Sir John C. and Lady Eaton to a garden party at "Ardwold." Motor cars were provided and everyone who went was delighted with the entertainment. Sir John arranged for the full band of the 109th Regiment to be present and threw his

entire home open to the visitors, who had occasion to admire the beauties of one of Toronto's most palatial houses, including the conservatories and the new swimming pool, recently installed. The Ontario Medical Association were indeed honored in having such invitations extended to them, and the visitors will look back upon the Association meeting with peculiar pleasure.

Many of the Toronto members gave dinners for the out-of-town men, among them being those of Dr. H. B. Anderson, Dr. W. H. B. Aikins, Dr. Herbert Bruce, Dr. Cleland, Dr. H. J. Hamilton, Dr. W. A. Young and Dr. F. N. G. Starr.

"I hope that the people of the Dominion will lay down as the first principle of Canadian citizenship the duty of properly and unstintingly providing for the future welfare of the disabled and maimed Canadian soldiers upon their return to Canadian shores," said Prof. Stephen Leacock of McGill University at the closing session. "Let us be kind first and wise afterwards, and hand out our bounty to the Canadian heroes without a stint, in the sense that it will be a badge of honor."

"The Economic Problem Presented by the Treatment and Disposition of Returned Soldiers" was the subject dealt with by the famed Canadian humorist and economist, who at the outset in his humorous and inimitable style remarked that in dealing with such a question before a body of medical men it appeared to him that he had been "called in," that the Ontario Medical Association was his first patient, and that he lingered over the fact with pleasure.

"The political economy of war is a problem of enormous proportions," proceeded Prof. Leacock. "The question to be considered is, How are we going to dispose of the disbanded army of over twenty millions representing the allied nations after the war, a problem unparalleled in the history of the world? When these armies are disbanded and return again to civil life, what will be the consequences, and to what extent will the economic machinery of the different nations stand the strain?

"Our Government has done marvellously well with the current problem before us, but we cannot always expect that the Government should assume the position of giving a lead to the people. That is not fair. Whatever difficulties may arise in the future in the adjusting of this great problem, it is our duty as

citizens, it is every man's duty in his own particular sphere of life to move in the direction of creating sound public opinion which must be the basis of sound democratic government.

"This whole question is one that has been too little thought of. While the older economists have always contended that war meant destruction of profit and money, it is the feeling of many that the present war has brought with it a strength and unbelievable prosperity. It is an era of prosperity. However, apprehensive of the hard times that will follow the war, there is no question as to the good times that we are enjoying. At the same time the meaning of war prosperity becomes very difficult when you talk of it in terms of money, which becomes more perplexing. Consider the making and breaking up of communities and the destruction of long and useful accumulative effort which has been wiped out during the present war. As a consequence of this war—the most colossal the world has ever witnessed—poverty will inevitably follow, but we are laying down certain fundamental principles of right and justice."

Prof. Leacock predicted that after the war there would be an enormous migration from Europe to Canada and the United States, the large bulk of which will be directed towards Canada, at a time when our soldiers will be coming home. It would be absolutely imperative for us to find employment for our people first, before dealing with others, he said. In referring to the question of pensions, Prof. Leacock stated that he believed that the ever-increasing resources of Canada would be capable of maintaining the whole charge of pensions given returned soldiers.

Senator J. S. McLennan, Vice-Chairman of the Dominion Miliatry Hospitals Commission, spoke at some length upon the plans of the Commission in dealing with invalided soldiers. The Senator dealt with the question from the practical and medical point of view, and incidentally gave a resume of the work already accomplished with the co-operation and co-ordinance of the medical fraternity, the various patriotic societies, the Federal and Provincial Governments, and the Militia Department.

Senator McLennan said that while many convalescent hospitals had already been established from the Atlantic to the Pacific, others will be established as they are required, and equipped with appliances adequate for the restoration of re-

turned disabled and maimed soldiers. He stated that there will shortly be established in Toronto a hospital for soldiers who have lost limbs. The institution will have a double object: firstly, the soldiers will be provided with artificial limbs, irrespective of the question as to profit, and, secondly, they will be manufactured by craftsmen who have been disabled.

The following officers were elected: President, Dr. A. Dalton Smith, Mitchell; Vice-President, Dr. C. L. Starr, Toronto; Treasurer, Dr. J. H. Elliott, Toronto; Secretary, Dr. F. A. Clarkson, Toronto; Representatives to the Canadian Medical Association, Dr. H. B. Anderson, Dr. H. J. Hamilton, and Dr. G. S. Cameron, Peterborough; Executive, Dr. D. J. Wishart, Toronto, and Dr. F. C. Neal, Peterborough.

The exhibitors this year included Messrs. Ingram & Bell, Limited, Toronto; The Denver Chemical Mfg. Co., Montreal; The Nutrient Food Co., Toronto; The Macmillan Co. of Canada, Toronto; The Waterbury Chemical Co., Toronto; The J. F. Hartz Co., Limited, Toronto; Messrs. Kress & Owen Co., New York; Messrs. Gilmour Bros. & Co., Montreal; Messrs. Virol, Limited, Montreal, and The Wingate Chemical Co., Montreal. Canadian representatives for The Chas. H. Phillips Chemical Co., New York. We take this opportunity of congratulating the firms named on their display. The halls of the Mining Building were rendered exceedingly attractive, and the visiting members took very keen interest in the different exhibits as displayed. We bespeak for the Association the continued support of such firms as those represented this year.

OBITUARY

TRAGIC DEATH OF DR. ALEXANDER PRIMROSE'S SON

ANOTHER young life has been sacrificed in the awful war that leaves the vacant place of an only son in the heart and home of one of our most esteemed confreres. To Dr. and Mrs. Primrose the entire Medical Profession tender the deepest sympathy in their loss. Lieutenant Primrose, twenty-one years of age, like many another University man, answered the call and paid the great price.

Personals

Lt.-Col. T. B. Richardson, O.C. 2nd A.M.C. Training Depot, has been placed in charge of the new Toronto Base Hospital now in the old Toronto General Hospital buildings, Gerrard St. East.

The Niagara Camp Medical Board is composed of President, Capt. J. Boyd, A.M.C.; Capt. G. S. Foulds, A.M.C., and Capt. W. J. Kirby, A.M.C.

Lt.-Col. (Dr.) H. J. Hamilton and Major (Dr.) C. J. Currie will compose the Medical Board in connection with the Toronto School of Instruction, College Street. Capt. (Dr.) C. E. Treble has been taken on the strength of the Hospital at Exhibition Camp. Capt. (Dr.) W. E. Brown, A.M.C., has been detailed as Medical Officer for the 180th Battalion.

The staff from the Western University, No. 10, Stationary Hospital, reported for duty on June 1st, and a special course in Army Medical Corps instruction was commenced. The Staff as completed follows: Lieutenant-Colonel, Dr. E. Seaborn; Senior Major, Dr. C. E. Brown; Junior Major, Dr. Cameron Wilson, all of London; Captains, Dr. Young, Assistant Superintendent, London Asylum; Dr. Moriarty, Mimico; Dr. Hudson, A.M.C.; Dr. Looney, Hygienic Institute, London; Dr. Turner, St. Thomas; Dr. Fraleigh, St. Mary's; Dr. Bice, St. Lucia; Dr. Henderson, Toronto; Dr. Douglas, Toronto; Lieutenant (Dr.) Dickie (Dispenser).

The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. XL. TORONTO, AUGUST, 1916 No. 2

Editorials

TELEPHONE ETHICS

It is high time that physician and patient should come to a distinct understanding in regard to telephone messages. There are at present two extremes, first, the patient who rings up the doctor and gives him an hour's earache about the crying of the baby, or the color of its stools; second, the physician who, without specifying any rate of charge for it, says in a most interested manner, as if it were a unique case, "Now, don't fail to call me up at any hour of the day or night, if you feel anxious," and then sends in a bill for ten telephone calls at one dollar each, in addition to the visits!

Both are wrong, but a way of escape is made clear! Each local medical society should agree on a form of wording, and a fixed rate for telephone messages, in which information is given on the management of the case, each physician having the option

of cancelling the charge where necessary, but showing on the bill, though crossed out by a line, how much his time was occupied.

A physician has no more obligation to give time, usually in his lunch or dinner hour too, instructing someone in the care of a case, than a high school principal has to teach a deduction in Euclid over the telephone.

NO EXCISE DUTY

AT the recent meeting of the Canadian Manufacturers' Association, which took place at Hamilton, Ont., certain resolutions were passed, amongst them being one to memorialize the Government that, as alcohol is required in either its pure or denatured form in a variety of industrial processes, the Government be requested to remove the Excise Duty or Inland Revenue Department's profit on alcohol under suitable regulations and restrictions:

1. When used by hospitals, etc., for bathing purposes.

2. When used in laboratories, etc., for educational research.

3. When used in hospitals and museums for the preservation of specimens.

We cannot state too strongly how exceedingly important this is, and we urge the Government to do as suggested by the Canadian Manufacturers' Association. We hope to be able to announce a little later on that the suggestion has been carried out.

PRESIDENT DR. EDMUND E. KING

WE take this opportunity of congratulating our esteemed confrere, Dr. Edmund E. King, on his unanimous election to the important office of President of The Ontario College of Physicians and Surgeons. The new President has been one of the most faithful and consistent workers in the interests of not only the Medical Council, but, in a wider sense, of medical education throughout the Province of Ontario, and his promotion is deserved and meets, we are sure, with the approval of the entire profession. From the bottom of our hearts we wish him well, satisfied that he will not leave a stone unturned to make his year of office a unique success.

Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

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Original Contributions

THE SPLEEN IN ITS RELATIONSHIP TO PERNICIOUS ANEMIA, SPLENIC ANEMIA AND HEMOLYTIC JAUNDICE*

DONALD C. BALFOUR, M.B., ROCHESTER, MINN.

That certain chronic, and even congenital, diseases of unknown etiology, particularly blood dyscrasias, are cured by splenectomy, is now an established fact. The removal of the spleen, although it is the largest of the ductless glands, is not followed by apparent disturbance in metabolism, being thus essentially different from other ductless glands. It is quite obvious that the splenic factor in diseases characterized by blood-changes should be constantly kept in mind. The role of the spleen in these diseases provides a most attractive field of study and investigation by the physician, the clinician and the surgeon.

The function of the spleen is not fully known; there is ample evidence to show that in infancy the spleen is part, at least, of the blood-forming mechanism of the body. The fact that the splenic pulp contains disintegrated corpuscles has led to the assumption that the worn-out red blood cells are broken up in the spleen and new cells created. Although the spleen and the portal circulation are apparently in rather close association, it is not known just what is the purpose or basis of such relationship. The spleen shows an enlargement during the period of digestion in addition to its rhythmical expansions and contractions, which gives it an independent pulsation and a circulatory mechanism differing from any other organ (Luciani)[1]. The exact purpose of this action is not understood.

The internal secretion of the spleen must be either of no vital importance in the human metabolism or it is supplemented by a

*Written specially for The Canadian Journal of Medicine and Surgery.

similar secretion in some other ductless gland. Its function may be more in the nature of a scavenger sifting out and picking up the waste matter, but this function also must be duplicated or total extirpation would be harmful.

The spleen is first evident in the fetus about the fifth week. It arises from the dorsal mesogastrium and is in close relationship to the stomach and colon. At first the vascular system of the organ consists of a fine network of capillaries similar to the primitive circulation of any organ; later in embryonic life this is transformed into a cavernous circulation. When the fetus is ten to twelve centimeters long the spleen enlarges rapidly and at this time spherules of capillaries can be seen, especially at the edge of the spleen. These connect the arterial and venous circulation and later form the splenic pulp connecting these systems in the adult spleen. Malpighian bodies are formed by a collection of lymphocytes in the adventitia of the arteries, and with the development of the adventitia the connective—tissue fibriles are laid down in concentric rings around the arteries. In the embryo of six months the spleen has acquired its triangular shape and the capsule and malpighian vessels can be easily differentiated.

Diseases of the Spleen. Certain diseases, infections and anomalies of the spleen are so rare that in this paper they will be merely mentioned. Primary tuberculosis (exceedingly uncommon), syphilis, malignancy (usually sarcoma), cysts (dermoid, serous, echinococcus, hemorrhagic), abscess, various injuries and malpositions of the spleen, are conditions relatively infrequent and unimportant as compared with those which form the basis of this article. In the majority of the conditions noted above, splenectomy is advisable, granting the individual operative risk is compensated by the relief or cure to be expected.

The observations in this paper are based on a study of splenectomies performed by other members of the surgical staff of the Mayo Clinic, and on a personal experience of splenectomy performed for various diseases. The latter included splenic anemia (both in adult and child), pernicious anemia, hemolytic jaundice (congenital and acquired), syphilitic spleen, chronic septic spleen, chronic splenomegaly of unknown origin, and splenomegaly associated with hepatic cirrhosis. I was particularly

fortunate to see during the past year striking examples of the diseases to which I wish to refer, viz., splenic anemia, hemolytic jaundice and pernicious anemia

1. *Splenic Anemia.* Splenic anemia, or Banti's disease, is a chronic disease characterized by splenomegaly and a definite blood picture. The disease occurs in adults and children, and is not uncommon, 31 cases having been seen in this clinic. Whether the spleen itself is primarily the cause of the disease, or whether the disease is a result of derangement of the associated functions of the ductless gland-system, and particularly the blood-forming mechanism, the spleen being the disabled link in the chain, is problematical. It is of first importance, from a practical standpoint, to be aware that splenectomy in splenic anemia, results not only in arrestment of the progress of the disease, but also in complete restoration of health. Therefore, any deductions as to etiology must be based on this fact.

In typical cases, especially when seen early in the course of the disease, the diagnosis is simple. Anemia and splenomegaly should at once make the diagnosis probable and a differential blood count will make it positive. The characteristic blood picture (from which there may be minor deviations) is that of secondary anemia, usually with leukopenia. The low color-index, the absence of nucleated red cells, and the large spleen, exclude anemias of the pernicious type. Inasmuch, however, as hemorrhages from mucous membranes are not infrequent, and as the disease develops the liver undergoes cirrhotic changes, it is quite evident that in certain stages the diagnosis may be obscured by the prominence of symptoms which are also characteristic of cirrhosis of the liver. The late picture of the disease (described by Banti) in which cirrhotic liver, large spleen, ascites, jaundice and repeated hemorrhages are the predominant features, not only is associated with difficulties as to a correct diagnosis, but creates a problem still to be settled, namely, the relationship between the portal and splenic systems.

In children one must primarily recognize a definite distinction between the splenic anemia of infancy or von Jaksch's disease, and the typical adult types of the disease. Giffin[2] believes the most practical classification of the disease in children is in two groups: (1) Those cases conforming to the splenic anemia of

adults, *i.e.*, in which are the cardinal symptoms of splenomegaly, anemia and leukopenia; (2) those associated with leukocytosis, a variable number of marrow cells, and a relatively high color index.

The blood picture of a normal child shows considerable variation from that of the adult, an increase in leukocytes (which is essentially a lymphocytosis) with occasional marrow cells being not uncommon in children. It is true, therefore, that the blood picture does not necessarily make possible a differential diagnosis between the adult form and the true splenic anemia of infants.

The literature records many cases of splenectomy for the splenic anemia of adults, with consistently good results. Although with a positive diagnosis splenectomy is indicated, yet occasionally in late stages of the disease the operation may be inadvisable, as in a recent patient whom I explored, where advanced cirrhosis, with ascites, fever, and an aneurysmal condition of the splenic vessels, precluded the removal of the organ with any degree of safety. From a study of our own cases it is apparent that continuous fever previous to operation foretells an unsatisfactory and stormy convalescence, and in some instances uninterrupted progress of the disease to death in weeks or a few months. On the other hand, even with moderately advanced cirrhosis of the liver and ascites, the patient, following splenectomy, may be restored to comparatively good health.

The mortality of splenectomy in these cases depends mainly on the stage of the disease. In its earlier phases the mortality will be due to accident; in the later stages the risk is definite and, as I have already mentioned, it may be prohibitive. In 31 cases of splenic anemia in our clinic the total mortality has been 9.6 per cent.

The disease rarely occurs in children, and there are few cases reported in which operation has been done. Of the typical adult form as seen in the child, Giffin has collected four cases from the literature. One has been seen in our clinic, and is included in my list of cases, making five in all. This case is of sufficient rarity and interest to record an abstract of the clinical history.

Case (137566) F. M. D. A girl two and one-half years of age; first examined in our clinic August 3, 1915. The

family history was negative. Anemia, hemophilia and splenomegaly were inquired about particularly. There were four other children in the family, all healthy. The child had evidently been quite healthy until one month before the date of examination here, when suddenly she vomited a large quantity of blood (estimated by the parents at one quart) and the stools were black for two or three days. Strength and color were promptly regained and the child was soon apparently normal. Two weeks later a second hemorrhage occurred, less severe than the first. After the second hemorrhage the patient seemed to get progressively paler and weaker. An abdominal mass was found about this time. Ten days previous to our examination an eruption, evidently urticarial in character, appeared and disappeared again in twenty-four hours. There was slight temperature at this time, but a history of increased temperature at any other time could not be elicited. The appetite was poor, the bowels were regular and micturition normal. The child was thin and very pale. The abdominal mass could be easily identified as an enlarged spleen, by its contour and notch. It extended to a point below the level of the navel. The liver-dullness did not seem to be abnormal. The superficial glands were very slightly enlarged. There was no fever. Wassermann test and Widal reaction were negative. The blood count showed a secondary type of anemia with a color index of .4 and an absence of leukocytosis. The hemoglobin was 20 per cent., a red cell count 2,010,00 and showed marked anisocytosis and moderate polychromatophilia, with only one normoblast seen while counting 300 white cells. There was no increase in the fragility of the red cells. The leukocyte count was 4,000. A differential count of 300 cells showed polynuclear neutrophiles 22.7 per cent., small lymphocytes 50 per cent., large lymphocytes 12.3 per cent., eosinophiles 12.3 per cent., basophiles 2.3 per cent., neutrophilic myelocytes .3 per cent. Splenectomy seemed clearly indicated and was performed August 15, 1915. Although the operation was rather hazardous on account of the weakened condition of the child, the large and adherent spleen and friability of the tissues, the patient made a rapid recovery, leaving the hospital on the ninth day. Three days after the operation the hemoglobin was 27 per cent., the leukocytes had increased to 14,600, of which 71.3 per

cent. were polynuclear neutrophiles. Seventy-six normoblasts were seen while counting 300 white cells. Future reports will contain the ultimate result in this case.

Splenectomy for splenic anemia of infancy, or von Jaksch's disease, has been reported in literature only on four occasions. The results were satisfactory in each case.

2. *Hemolytic Jaundice or Acholuric Icterus.* Jaundice may exist without mechanical obstruction to the exit of bile from the liver. The transient icterus associated with various toxemias, "acute catarrhal jaundice," and other infections, is generally considered non-obstructive in origin. This paper, however, is concerned not with such temporary icteric conditions due to various toxins and infections, but rather with a distinct group of cases with chronic jaundice, associated with splenomegaly. To this group the term "chronic hemolytic or acholuric jaundice" has been applied, and is descriptive of the essential feature of the disease, viz., chronic jaundice, the result of hemolysis.

The etiology is not understood, but the patient's prompt and permanent recovery from every symptom of the disease, following splenectomy, is strong evidence of the splenic factor. As yet, however, theories to explain the relationship are purely speculative. The role of the spleen in this disease may be similar to that of the thyroid in exophthalmic goiter. In the latter disease we know that the symptoms will disappear with convincing regularity and the patient be restored to a normal state of health (if permanent damage to the vital organs has not occurred) by the removal of a sufficient portion of the thyroid. Other than this we have no proof that the thyroid is primarily responsible for the disease, yet it is a safe assertion that the disease at least takes place through the gland. In the same way, although no explanation has been offered to prove that the spleen of itself develops the hemolytic agent, it must in some way control the output of this hemolytic agent.

The congenital form of the disease is the more common and is of particular interest in that the familial type is included in this group. Striking examples of many members of a family being afflicted with this disease have been reported in literature, Elliott and Kanavel[3] citing operative cases. In this form both the jaundice and palpable spleen are usually apparent from birth.

The acquired form may be inaugurated at any time, the average case developing in the third decade. Authorities agree, and it has been our experience, that it is likely to be more severe in character than the congenital type, with more acute and disabling crises. These exacerbations in both forms are characterized by malaise, headache, deepening of the jaundice, bile in the blood, the urine showing urobilin but no bile, and occasional nose-bleed, or gastric hemorrhages, and in some cases severe epigastric pain simulating biliary colic. The jaundice, being acholuric, differs distinctly from the icterus due to mechanical obstruction of the common duct, in that itching, petechiae, clay stool, or slowing of the pulse, are not characteristics. Nevertheless, I have seen one patient (who presented every other feature of the disease) in whom clay stool and itching skin were present, and without any evidence, either in the clinical history, examination or operative findings, of biliary complications. Splenomegaly is constant and occasionally extreme, a case of my own reaching to the iliac crest and to the mid-abdominal line. Anemia is not always present in the early stages of the disease, but is pronounced in the later phases. Following severe crises the blood-forming organs may show signs of exhaustion in a blood picture simulating that of pernicious anemia, with nucleated reds, normoblasts and a high color-index. There is an increased fragility of the red blood cells. Urobilin is usually found in the urine and indicates the degree of hemolysis.

Splenectomy for congenital and acquired hemolytic jaundice is followed by such satisfactory recovery that the surgical results are proof that the spleen is directly or indirectly responsible for the hemolysis, which is the characteristic feature of the disease. Splenectomy is not only curative, but can be accomplished with a relatively low mortality (less than 5 per cent.). Splenectomy for hemolytic jaundice dates from 1912, when Banti[4] reported the first case. Elliott and Kanaval[3] in 1915 brought the subject to date, reporting 47 cases in the literature, and one of their own. Five others may be added from our clinic. I wish particularly to refer to one case of my own, which presented the classical symptoms of the disease.

A boy, aged nine (141268), whose history did not include any immediate relatives with similar symptoms, presented the

following symptoms and findings: (1) Jaundice since birth with acholuric crises; (2) spleen reaching to the iliac crest; (3) large liver; (4) repeated nose-bleed; (5) increased fragility of the erthrocytes, complete hemolysis taking place at 4 per cent.; (6) blood count: hemoglobin 24 per cent., red cells 1,340,000, color-index .8, leukocytes 15,200, number of cells counted 300, with a differential count of polynuclears, neutrophiles 59 per cent., small lymphocytes 29 per cent. large neutrophiles, myelocytes 3.0 per cent., normoblasts 57. There was marked anisocytosis, degeneration of red cells. slight poikilocytosis and polychromatophilia, and a coagulation time of ten minutes.

Following splenectomy (September 25, 1915) the boy rapidly improved, the moderation of the jaundice being actually apparent the day after operation. The return of the blood to normal was correspondingly consistent.

Hemolytic jaundice associated with splenomegaly is, therefore, a distinct entity. An atypical case, especially of the acquired type, may be sufficiently irregular to prove perplexing in differentiation from the biliary types of cirrhoses (particularly Hanot's). In the typical case the chronicity of the jaundice and its character, the splenomegaly, the increased fragility of the red cells, and the absence of alcoholic or specific history, should be sufficient for a definite diagnosis.

3. *Pernicious Anemia.* Eppinger, Decastello, Huber, and others,[5] at about the same time (1913) first suggested and performed splenectomy as a therapeutic measure in pernicious anemia. Since that date the operation has been done with increasing frequency by various surgeons, who have reported rather unconvincing results. Although such preliminary reports of splenectomized pernicious anemia cases are, in the main, encouraging, it must be borne in mind that the disease is characterized by intervals of more or less normal health. Such periods are also occasionally prolonged over several months, so that a conservative opinion as to the result of any new therapeutic measure is essential. Further, it is obvious that the indications for splenectomy in the disease must be discussed with considerable reservation, as the usual course of pernicious anemia is one of extreme chronicity, and any observations as to the permanent results of splenectomy are at the present time premature.

Inasmuch as the etiology of pernicious anemia has not been established, and as we have as yet no proved explanation of the part the spleen plays in the disease, the removal of the spleen is on a speculative basis, and until some explanation is forthcoming, the operative results must speak for themselves. One cannot even claim that splenectomy is consistently followed by immediate improvement, nor is it true that improvement is maintained in all cases. Nevertheless, it must be remembered that no other therapeutic measure has been able to bring about more than temporary benefit and that the ultimate prognosis is as bad now as at any time in the history of the disease. Cabot[6] states that only 6 out of 1,200 analyzed patients completely recovered. A disease which is practically 100 per cent. fatal justifies the thorough and conscientious trial of any new method which may be advocated.

In a given case of pernicious anemia the question of splenectomy must always be carefully weighed, and at the present time we believe some good reason should be advanced why splenectomy should not be advised. Undoubtedly there are instances in which it cannot be expected that any treatment will interrupt the progress of the disease or restore the person to health. When edema, mental torpor and motor and sensory disturbances, due to spinal-cord lesions, or hemorrhages from mucous membranes, mark the last stages of the disease, splenectomy is associated with a high initial mortality as well as little prospect of cure. The indications for operative treatment may be compared to those in exophthalmic goiter, viz., the operation should never be an emergency one and should not be undertaken in critical stages of the disease. Further, as in exophthalmic goiter, we have means which, with little risk, may be reasonably depended upon to improve the condition of the patient to such an extent that splenectomy becomes relatively safe. The preliminary transfusion of blood has already proved of the greatest aid toward minimizing the risk associated with the surgical treatment in the more severe cases. In several instances we have found that transfusion (repeated if necessary) has so benefited those who were considered prohibitive surgical risks, that operation could be undertaken with a reasonable degree of safety. Although the method of transfusion is not vital, we have been impressed

with the simplicity and the results obtained by mixing sodium citrate with the blood of the donor. The selection of the donor, the quantity of blood, the frequency of the repeats, and the indications for post-operative transfusion, are all important points and will be the subject of a later article.

In exophthalmic goiter the reaction following ligation of the blood supply of the thyroid is a fairly accurate indication of not only the operative risk of thyroidectomy, but also the benefit which may be expected to follow such treatment. Similarly, the degree of response by the patient with pernicious anemia, as regards the general condition, and particularly the quality of the blood, following transfusion, appears to predict at least the immediate results to be anticipated from splenectomy.

The operation, *per se*, in a patient of comparatively good risk, with supportive transfusions, can be conducted with a low mortality.

In the majority of cases the spleen shows a slight enlargement. With one exception in our series of patients operated on, the spleen was above normal in size. Rarely has sufficient perisplenitis existed to develop adhesions enough to offer serious difficulties, and in practically all cases the spleen can be readily dislocated from the renal-phrenic space.

Regarding results: our experience has been such as to lead us to believe that with further knowledge as to the proper selection of cases, splenectomy promises more certainty as to primary results, and probably as to late results, than any other form of treatment.

The technic of splenectomy is of sufficient importance to warrant a separate article. In brief, it may be said that the anatomic relationships of the spleen are constant enough to permit of a routine operation in the removal of the organ. The most important points of refinement concern the control of the oozing from the diaphragmatic surface, the avoidance of injury of the fundus of the stomach, and the careful dissection of the tail of the pancreas from the splenic pedicle. In another paper I have referred to the above points in detail.[7]

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INTUSSUSCEPTION

BY W. E. GALLIE, M.B., TORONTO.

During the summer of 1915 an unusually large series of intussusceptions came under the observation of the writer at the Children's Hospital. These cases presented so many difficulties, and the results of treatment were so frequently unsatisfactory, that a more extensive investigation of the subject was undertaken, based on the clinical records, autopsy reports and pathological specimens of the cases treated in the hospital in the past thirty years.

The outstanding point in regard to intussusception is the high mortality rate. An analysis of the clinical histories, however, very quickly indicates that this high percentage might be materially reduced by improvement in the management of the cases.

Since the year 1886, when the keeping of clinical records was established in the Children's Hospital, forty-five cases of intussusception have been treated. Between 1886 and 1899, no cases appear in the records, although two cases of intestinal obstruction are mentioned as being suspected of intussusception. These cases died without operation or autopsy to corroborate the suspicion. The first authentic case was admitted on March 26th, 1899, under Mr. I. H. Cameron. The history states that the patient, a boy of 3½ years of age, had suffered from the usual symptoms for eight days before admission. He had vomited frequently, and on two occasions vomited round worms. Although he was practically moribund, it was decided, after consultation, that operation afforded the only possible chance of recovery, and abdominal section accordingly was performed. A large, irreducible, ileo-colic intussusception was exposed. A resection of the involved intestine was immediately performed and anastomosis established by means of the Murphy button. The resected intestine contained round worms. The patient died soon after being returned to the ward.

Since 1899 enormous advances have been made in abdominal surgery, due largely to the introduction of a simple and a safe method of intestinal suture. But this advance has not

resulted in improvement in the mortality statistics of resections for intussusceptions. Of the seventeen recorded cases, in which the intussusception was irreducible, not a single case survived. Of these seventeen cases, fifteen were treated by resection and anastomosis, either by means of the button or simple suture, and two by simple ileotomy and drainage of the distended loops, above the obstruction. Nor are these statistics any worse than those of similar institutions, there being only half-a-dozen reported cases of recovery after resection or any other method of treating irreducible intussusception in small children. Many of these patients die soon after the operation, quite evidently as the result of surgical shock. The remainder die after the lapse of twenty-four hours or more, of an intense toxemia.

It is among the cases in which the intussusception is reducible that the recoveries occur. Out of the total of forty-five cases, twenty-eight were reducible. Of these, three were reduced without operation and all recovered, establishing a recovery rate of one hundred per cent. Of the twenty-eight reducible cases, sixteen recovered, a percentage of 57.1. Analysing still further we find that of these twenty-eight cases, eighteen are recorded as having been reduced easily and the remaining ten, with difficulty. There is probably some variation in what the operators mean by the expression "reduced with ease or with difficulty," but in my own cases, which comprised more than one-third of the whole series, namely, sixteen cases in all, an intussusception is said to be reduced with ease when the intestine can be returned to its normal conformation with not more than two or three minutes' manipuation, and when there is no sign of localized peritonitis, marked edema of the intussusceptum, injection of the ensheathing layer or other signs of injury to the coats of the intestine. If any or all of these conditions are present, the intussusception is described as difficult of reduction.

Of the eighteen easily reducible intussusceptions, fourteen recovered, a percentage of 77.7.

Of the ten cases reduced with difficulty, only two recovered, a percentage of 20.

The conclusion is obvious, therefore, that the prognosis of intussusceptions in infants is in direct relation to the diffi-

culty experienced in reducing the invagination or in other words, is directly dependent upon the amount of damage already sustained by the bowel wall.

An examination of the cause of death in the fatal cases shows that these patients die from two separate and distinct causes. Of the total of twenty-nine fatal cases, thirteen died on the operating table or shortly afterwards, never recovering from the anesthetic and quite evidently succumbing to the shock of the operation. This high mortality from shock can be materially reduced by care in the operative technique and by the institution of measures to combat it.

On the other hand, while admitting that operative skill and precautionary measures will do much to lessen surgical shock, the fact remains that the obstruction must be relieved either by reduction or resection and that the more difficult or extensive the operation, the greater will be the unavoidable shock. A glance at our own statistics establishes this at once. Of the thirteen cases which died of shock, eleven had resections performed, and two were reduced with difficulty, no easily reducible tumors appearing in the series. It is therefore evident that the more the operative manipulation required, the less the likelihood of recovery.

Of the remaining sixteen fatal cases, two died of peritonitis four or five days after the operation. One was a resection case in which the bowel ruptured close to the anastomosis, evidently due to circulatory disturbance in the intestinal wall, and the other was a case of my own in which reduction was difficult and the serous coat of the bowel badly injured.

The other fourteen fatal cases died with the typical symptoms of the toxemia of intestinal obstruction. Following the initial period of shock after the operation, the temperature gradually rises, sometimes to 105 degrees F., the blood pressure falls, and the patient lapses into unconsciousness and dies from eighteen to thirty-six hours after the operation with all the appearances of intense toxemia. This occurs in spite of the cessation of vomiting and in spite of the free evacuation of the bowels, following the relief of the obstruction.

How to combat this toxemia is a problem yet to be solved. The recent work of Whipple throws a great deal of light on the

nature of the toxin, his experiments apparently establishing that it is a proteose formed in the intestinal mucosa above the obstruction, and which is found both in the mucosa and in the intestinal contents. But beyond the production of a mild immunity in animals by the intravenous injection of sublethal doses of this toxin, no progress has been made towards specific therapy. Theoretically, since it has been established that the bowel contains quantities of toxin above the obstruction, the ileum should be drained before closure of the abdomen. In the severe cases, it is not enough that the obstruction should be relieved alone, for in these cases the distended ileum does not empty itself into the colon, but simply remains in a state of paresis until death supervenes, and at autopsy the distal loops of ileum are found in exactly the same condition of distension as at operation, with the colon empty. Unfortunately in our series there has not been a single case recover in which drainage was established, so that we have no clinical grounds for advocating any particular method. Recently, however, we have been passing a long rubber catheter along the rectum and colon through the ileo-coecal valve or the anastomotic opening between the ileum and colon and thus syphoning the distended intestinal loops. This avoids the danger of contamination of the peritoneum associated with simple incision into the ileum and it takes much less time.

As to what is the cause of the toxemia nothing definite is known. From a clinical standpoint however, it appears that the more extensive the damage to the intestinal wall the more intense is the toxemia, but one hesitates to make any further surmises in the face of the extensive experimental study which is being conducted at the present time in several of the chemical laboratories. This we do know, however, that the longer the obstruction persists, the more intense becomes the toxemia and in consequence, the greater the probability of a fatal result, even following successful reduction or resection of the intussusception. Even in those cases which recover, following successful operation, the struggle against this powerful toxemia is very apparent for several days, in the fever, great prostration and toxic appearance of the patient.

The relation of the length of time intervening between the onset of symptoms, and the establishment of efficient treatment, to the table of percentages of recovery is very suggestive. Of the sixteen cases that recovered, twelve received treatment within twenty-four hours after the onset of symptoms. Of the twenty-nine fatal cases, twenty-four did not receive treatment till after the lapse of twenty-four hours. Of the seventeen irreducible gangrenous cases, twelve were untreated for more than three days. It is quite evident therefore, that in the great majority of instances, the probability of recovery is in inverse ratio to the length of time intervening between the onset of symptoms and the institution of treatment. Further, the longer the interval, the greater the probability of the invagination being irreducible and gangrenous, a circumstance which in our experience has always been fatal.

Several noteworthy exceptions occurred which merit consideration. Among the cases which recovered was one in which the symptoms had been present for a week. The child was very toxic and operation was decided upon only as a forlorn hope. The invagination extended as far as the sigmoid and the bowel above the obstruction was much distended. We were surprised to find however that reduction was quite easy, there being very little injury to the intestinal wall. The ileum at once drained into the colon and a bowel movement occurred on the table. For several days following the operation the child was intensely toxic, but ultimately the condition improved and recovery ensued. This case demonstrates that the condition of the bowel cannot always be foretold from the history or indeed from the general reaction of the patient, and it suggests the advisability of operation, no matter how late the case or how severe the symptoms, short of a moribund condition. Chance evidently plays a considerable part in determining whether the invagination will culminate in rapid circulatory disturbance in the intestinal wall or not, and upon this, not solely upon the time, depends the prognosis.

Among the fatal cases two occurred in which the intestine was gangrenous within twelve hours of the onset and several were reduced with difficulty in less than twenty-four hours. These cases indicate the danger resulting from delay in instituting treatment.

The conclusion which must be drawn from this statistical review is that if in our next forty-five cases we are to hope for an improvement in our mortality records, a change must first occur in the earliness in arriving at a diagnosis and in reducing the invagination of the intestines.

In this relation it is interesting to investigate the cause of delay before operation. In many instances the history does not mention the cause, but in others, twenty-four hours or more elapsed before a doctor was called. In the majority of recorded instances however, too much valuable time was lost by the physician or surgeon in arriving at a correct diagnosis and in instituting treatment. Taking it for granted that no rational practitioner would hesitate if he suspected the nature of the condition, the delay in these cases must be laid to inability to make a diagnosis, either from improper examination or from ignorance of the significance of the usual symptoms of the condition.

Unlike many of the diseases of childhood, the symptoms of this condition are very definite, and even at the earliest moment point to a correct diagnosis. The majority of the patients are ordinary healthy children under a year of age. In our cases, digestive disturbances preceding the attack were rare. The attack begins with acute abdominal pain, the baby crying and drawing up its limbs and often vomiting. Very quickly a bowel movement occurs, emptying the colon and soon afterwards stools consisting of blood stained mucus begin to appear. No further fecal material is seen and no gas escapes from the bowel. The appearance of the stool is absolutely characteristic, consisting of clear mucus, tinged red throughout with fresh blood, with here and there streaks and small clots. On the appearance of the stool alone, a diagnosis usually can be made. To corroborate it, an examination of the abdomen shows the muscles flaccid except when contracted in the spasm of crying, and nearly always the characteristic sausage-shaped tumor can be felt in the course of the ascending or transverse colon. If the abdomen is flaccid sufficiently long for a thorough examination, a curious feeling of emptiness is often observed in the right iliac fossa. Sometimes the constant crying of the child makes the abdominal examination unsatisfactory. In this case, an anesthetic should invariably be administered. Just here it is well to be forewarned that occasionally no information can

be obtained from the abdominal examination. In three of our cases, no tumor could be felt, owing in one instance to gaseous distension, and in the others to the location of the mass deep in the abdominal cavity and close under the liver. One of these cases occurred early in my own series, and I had cause to regret that I delayed operation on this account. As time goes on, abdominal distension always develops and sometimes violent peristaltic movements become visible through the abdominal wall. This has been observed in several of our cases. Occasionally in late cases a mass can be felt per rectum, resembling somewhat the os uteri, but in our experience this is unusual.

To arrive at a correct diagnosis, the history is of the utmost importance, consisting of the sudden onset of abdominal pain with vomiting, and the appearance of blood and mucus in the stools with the cessation of fecal material and gas. Abdominal palpation will usually disclose the presence of a tumor. If stools are infrequent and the report of blood and mucus is merely hearsay from the mother, a simple enema and a digital examination of the rectum will immediately show the usual character of the bowel contents. This is clear mucus and blood, odorless and unmixed with fecal material.

So clear is the diagnosis in the majority of instances that it is hard to account for the delay which has occurred in so many of our cases. Time after time the most valuable hours have been thrown away waiting for the results of doses of castor oil and in fruitless efforts with enemata. It would appear that while most of the medical attendants suspect intussusception or intestinal obstruction of some other sort, they are loath to subject the patient, already very ill, to the doubtful benefits of an abdominal operation, without absolute certainty that the diagnosis of intussusception is correct. This is the wrong attitude to assume when one remembers the evil results of delay. One's attitude towards these cases should be, not to insist on proving absolutely that the condition is one of intussusception, before instituting treatment, but rather to require absolute proof that the condition is not one of intussusception, before deciding against immediate operation.

As to treatment, there is but one rational course, immediate laparotomy and reduction of the tumor if possible. Cases are undoubtedly on record of spontaneous reduction, or reduc-

tion with manipulation through the abdominal wall as in our own two cases, but these are so rare as to warrant their exclusion as a class in treatment. Even after the lapse of four hours from the onset of symptoms, the edema of the intussusceptum is often so acute that considerable difficulty is experienced in reducing the invagination, so that the indication is for operation immediately the diagnosis is made.

Our recent experiences with the operative treatment have taught us that certain definite rules must be observed if the mortality is to be reduced. Shock must be minimized and combatted by every means at our command. These patients are all in a state resembling shock resulting from the pathological condition when they come to the operating room. It is the addition of the shock of the operation that accounts for the number of deaths on the operating table or shortly afterwards, which undoubtedly would not have occurred for twenty-four hours or more if no operation had been performed. To minimize this operative shock, the operation must be of the shortest possible duration, and the exposure and manipulation of the intestines the least that is absolutely necessary. In addition to the ordinary precaution for the prevention of shock, we make a point of wasting no time between the induction of anesthesia and the commencement of the operation. The preparation of the skin is completed before the anesthetic is started and as soon as the patient is fully anesthetized, an ample right rectus incision is made and the invaginated intestine isolated. No intestines are delivered outside the abdominal cavity, and the reduction is completed with the least possible disturbance of the viscera. Immediately the reduction is completed the abdomen is closed without any wasting of time in removing the appendix or in suturing the coecum of the abdominal wall, as has been recorded in some of the earlier cases.

Recognizing that shock will be present in spite of the most skilful technique, we now make it a rule to give the patient an intravenous transfusion of from 100 to 200 cc. of normal saline solution, commencing at the moment the pulse and blood pressure indicate reaction to the manipulation of the intestines. The idea of such a measure is to tide the patient over the dangerous period. The rapid introduction of the fluid into the blood vessels makes intravenous transfusion infinitely more

valuable than hypodermoclysis or the introduction of saline into the abdominal cavity. The experience of seeing a patient succumb to shock with one or two hundred cc. of saline lying quite unabsorbed beneath the pectoral muscles, shows the futility of such treatment. Before completely closing the peritoneum a hundred c.c. or more of warm saline is introduced into the abdominal cavity in addition to the transfusion. During the following twenty-four hours hypodermoclysis is resorted to in order to keep up the supply of fluids.

The above is the technique employed in all early cases, and since its introduction no deaths have occurred which can be attributed to shock. Even in the cases requiring resection of intestine, the death of the patient has been postponed until the element of shock as a cause of death is of no further importance.

Until we can report a case of recovery following resection of intestine, it would be futile for us to advocate any particular technique. Since the successful recovery of an older patient, a boy of eighteen years, about a year ago, from whom I removed three feet of gangrenous intestine after an intussusception of eight days' duration, I have been hopeful that we may yet get a recovery in an infant.

The technique which appears the most hopeful is as follows: Reduce the intussusception as far as possible as described above. Then rapidly do a lateral anastomosis between the ileum and the ascending colon as close to the ileo-cecal valve and the point of the intussusceptum as the condition of the intestine will allow. Then quickly resect the invaginated intestine and turn in the ends. This technique reduces to less than half an hour the length of the manipulations. Before closing the peritoneum, the distended ileum is gently emptied into the colon and the toxic intestinal content is later evacuated with enemata; or the rubber catheter is used as described above and the contents of the distended loops syphoned off.

In conclusion, attention is once more directed to the statistical figures which so clearly indicate the direction for improvement in the management of intussusception.

I am much indebted to Dr. McCowan, of the Children's Hospital Staff, for assistance in the collection of the statistics.

143 College Street, Toronto.

Society Proceedings

ANNUAL MEETING, COLLEGE OF PHYSICIANS AND SURGEONS

The Annual Meeting of the Council of the College of Physicians and Surgeons of Ontario opened on Tuesday, June 27th.

The new members taking their seats were Dr. F. R. Eccles, of London, and Dr. J. C. Connell, of Kingston.

The Officers elected for the Council year 1916-1917, were:—

President, Dr. Edmund E. King, Toronto.
Vice-President, Dr. W. E. Crain, Crysler, Ont.
Registrar-Treasurer, Dr. H. Wilberforce Aikins, Toronto.
Solicitor, H. S. Osler, K.C., Toronto.
Auditor, James F. Lawson, Toronto,
Stenographer, George Angus, Toronto.
Prosecutor, John Fyfe, Toronto.

The report of the Board of Examiners showed that, in the Spring Examinations of 1916, there were in all one hundred and twenty-nine candidates, of whom eighty-eight passed, and forty-one failed.

Dr. W. Spankie, of Wolfe Island, and Dr. H. S. Griffin, of Hamilton, were appointed, as representatives of the College, for the coming four years, on the Medical Council of Canada.

Appeals, emanating from twenty-four candidates, who had failed at the recent examinations, were considered. Of these two only were entertained.

The question of the proper handling of drug habitués was referred to the incoming Executive Committee, with permission to bring it before the Royal Commission for consideration, if thought advisable.

The following motion, bearing upon the attitude which, in the judgment of the Council, should be assumed by the members of the College, in the matter of the carrying out of the provisions of the Ontario Temperance Act, was passed:—

"That, inasmuch as the Government has imposed upon the Medical Profession the working out of the Ontario Temperance Act, according to clause 51 of the Act, this Council desires to impress upon the profession at large the necessity of adhering to the Act with dignity and decorum, and that the Registrar be instructed to provide the members of the College with a copy of the clauses, and this resolution."

The Council adopted the report of the Special Committee, appointed to consider the advisability of establishing a system of licensed midwives in Ontario. The report reads:—

"Conditions in the Province at this time do not demand a system of licensed midwives."

The Council decided to request the Militia Council to provide that Canadian Army Medical Corps Officers should "have rank and compensation, more in keeping with the services rendered."

The report of the Education Committee, as adopted by the Council, provides, *inter alia.*

1. That the question of uniform matriculation standards be taken up, when the Canada Medical Council has issued its report on the same.
2. That the Fifth Year of the Medical Course shall be "wholly and exclusively academic."
3. That graduates in medicine of such foreign universities as shall enjoy the recognition of this College will not be required hereafter to attend a full Winter Session of lectures and clinics in a Canadian Medical College.
4. The Council acceded to the request preferred by Queen's University and the University of Toronto, that the present Summer Session shall be regarded as a full, academic year, the College to hold its usual Fall Examination at the close of such Session.

The same Examiners as had conducted the Spring Examinations were appointed.

The Council passed the following resolution:—

"Moved by Sir James Grant, and seconded by Dr. Johnstone, that the council of the College of Physicians and Surgeons, Ontario, thoroughly appreciate the fact that at no period in our history were all parts of the British Empire more closely knit together than at present. We embrace this opportunity of placing on record our appreciation of the masterly efforts of Lord Kitchener, who died, as he lived, for his country, and whose loss to the Empire is one of the heaviest blows we have been called upon to bear. Since the commencement of this war Kitchener has been a name to conjure with. He was more than a military power, a first-class diplomat, an able administrator, strongly in evidence by his remarkable efforts in Egypt, Africa, and India. Roberts and Kitchener were linked closely in life, mysteriously joined in death, and truly left an imperishable record."

A Special Committee was appointed, to act jointly with similar Committees of the Ontario Medical Association and the Academy of Medicine, to approach the Government, with a request for such amendments to the Workmen's Compensation Act as would, in the operation of the same, provide for reasonable compensation for services rendered by members of the profession, in cases coming under the operation of the Act.

The Council adjourned on Friday, June 30th.

ANNUAL MEETING OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION

The annual meeting of this Association will meet at the McAlpin Hotel, New York City, on October 25th and 26th.

A most interesting programme is in course of preparation, and the local committee, composed of the following members, is an assurance of a successful convention:—

Dr. Thomas L. Stedman, (editor *Medical Record*), chairman; Dr. R. H. Sayre (*New York Medical Journal*); Dr. Brooks H. Wells (editor *American Journal of Obstetrics*), Dr.

Frank C. Lewis (*International Journal of Surgery*), Dr. Ira S. Wile, (*American Medicine*).

The officers of the Association for 1915 and 1916 are as follows:—

Dr. Edward C. Register (*Charlotte Medical Journal*, Charlotte, N.C.), President; Dr. W. A. Jones (*Journal Lancet*, Minneapolis, Minn.), 1st Vice-President; Dr. G. M. Piersol (*American Journal Medical Sciences*, Philadelphia, Pa.), 2nd Vice-President; Dr. J. McDonald, Jr.(*American Journal of Surgery*, New York), Secretary and Treasurer.

The Fifteenth Annual Meeting of The Canadian Association for the Prevention of Tuberculosis will be held in the Parliament Buildings, Quebec City, Que., on Tuesday and Wednesday, 12th and 13th of September, 1916, beginning on Tuesday at 2 p.m.

Personals

Dr. A. A. Mathieu has been appointed Medical Officer of Health at Watrous, Sask.

Dr. G. E. J. Lannin, of Hamilton, was married on June 20th, 1916, to Miss Vera Ada Etheline Campbell, of Exeter, Ont.

Dr. Clarence Starr has kindly consented to identify himself with our Department of Orthopedic Surgery, and we welcome him to our staff.

Dr. A. D. Campbell, of North Battleford, Sask., has been appointed resident physician at the Provincial Hospital for the Insane. Dr. J. W. Stewart has been appointed Medical Officer of Health, to succeed Dr. Campbell.

Dr. F. C. Moore, of Isabella Street, spent the month of July at The New York Polyclinic Hospital, taking a special course in Surgery, particularly Cystoscopy, and will return to Toronto about August first Dr. Moore intends paying special attention to Cystoscopy after this.

The following candidates have successfully passed the examination for the diploma of L.M.C.C., known as the Federal License in Medicine, held at Toronto in June:—

J. E. Affleck, Glasgow Station, Ont.; C. M. Anderson, Ottawa; S. G. Baldwin, Vancouver; W. S. Downham, London, Ont.; G. C. Ferguson, Winnipeg; J. W. Fraser, Whitby, Ont.; G. Hooper, Ottawa; W. T. Kennedy, Agincourt, Ont.; J. J. Knoll, Daysland, Alta.; D. M. Livingstone, Collingwood, Ont.; A. Y. McNair, Vancouver; H. M. MacDonald, Kingston, Ont.; W. Morris, Winnipeg.

Militia and Naval Medical Services and Ambulance

The Duke of Connaught opened the Deer Lodge Convalescent Home for Returned Soldiers in Winnipeg on June 29th.

Lt. (Dr.) H. C. Hazelwood, A.M.C., was appointed a few weeks ago Medical Officer of the 176th Battalion.

Lt.-Col. Dr. Alex. Primrose is home on leave. It is understood that he will not return to Saloniki for some months, meanwhile resuming his work on the University in connection with the special session.

In a recent issue of *The London Gazette* appears the name of Lt. (Dr.) P. F. McGibbon, of Bracebridge, Ont., who has

received the Military Cross for distinguished conduct on the field. Dr. McGibbon is the well-known lacrosse man, who went overseas when the war broke out with the 8th Royal Berkshire Regiment.

Capt. F. R. Nicholl, M.D., of London, Ont., is now in training in Montreal, and will leave shortly for the front with "A" Section of No. 2 Field Ambulance Corps.

The following members of the Canadian Army Medical Corps have joined the Royal Army Medical Corps:—Capt. Herbert Maxwell, Lts. Trow, George Stewart, Lawrence Brains, Thomas Macknight, Ellis, Reynold, Robert McKey, John O'Donnell, David McKenna, Harry Joyce and Nelson.

The following promotions in the Canadian Army Medical Corps are announced:—To be Colonel—Lt.-Cols. Wallace Scott and T. R. Snider. To be Major—Lt. Charles William Buckley. To be Honorary Major—Dr. C. J. Stewart. To be Captain—Lts. Graham, Hanna, Bonnycastle and Wheeler; Sergeant Dowson and Sergeant David Lazier.

The following appointments are announced as having been made in England:—Brig.-Gen. Geddes, Professor of Anatomy at McGill University, to succeed Sir Henry Mackinnon as Director of Recruiting. Col. G. S. Rennie and Maj. F. W. Wilson, to be Assistant Director of Canadian Medical Services at Shorncliffe. Capt. Bowlby to be Deputy Medical Director of Embarkations. Capt. Gordon S. Chown, of Winnipeg, to be Advance Department Medical Officer of the Canadian troops now in France.

The decoration of C.M.G. has been conferred by His Majesty upon Lt.-Col. Frederick Etherington, Commandant of Queen's Military Hospital; Lt.-Col. Samuel Hanford McKee, formerly in command of No. 1 Canadian Stationary Hospital and now second in command of the Westcliffe Hospital, England; and Major Evans Greenwood Davis.

ANOTHER LIST OF YOUNG DOCTORS FOR THE FRONT

Over thirty of the recent graduates of the Medical Faculty of Toronto University left the city on June 15th on their way to the battlefront. The party included Drs. H. G. Young, G. M. Cameron, J. A. Dickson, W. C. Givens, A. W. Knox, A. J. MacCallum, E. C. McPherson, R. B. Robson, C. J. M. Willoughby and P. B. Brown.

No. 2 CANADIAN HOSPITAL IN EGYPT

General Maxwell's despatches covering the Egyptian operations, issued on June 21st, bring forward the following names of the members of the staff of No. 2 Canadian General Hospital:—Lieut.-Col. Etherington; Lieut.-Col. Duff (deceased), Capt. Kidd, Staff-Sergt. Stevenson, Sergt. Sanger, and Privates F. Walsh, G. Bell, R. Whitaker, Lance-Sergt. M. C. Cree, Matron Willoughby, and Nurses Armstrong and Finlayson.

MEDICAL OFFICER'S BRAVERY

Word recently reached us through Surgeon-General G. C. Jones, wherein he bears tribute to the heroic death in action of another medical officer of the Medical Corps this time, during the fighting near Ypres. It is just another of the many ghastly examples of German frightfulness. Wounded and helpless Canadian soldiers and the man who was attending them at one of the regimental aid posts were bayoneted and murdered in the most brutal manner by the Germans, who had taken the first line of trenches. Surgeon-General Jones refers to this particularly in recording the death of Capt. (Dr.) W. R. Haight, of British Columbia, Medical Officer of the First Mounted Rifles. Capt. Haight was reported missing after the first day's fighting. When the lost ground was recovered

by the Canadians, the spot at which the regimental aid post had stood was found filled with the bodies of the men whom Capt. Haight had been attending. He, himself, had been brutally bayoneted.

MENTIONED IN DESPATCHES

The profession throughout Canada were intensely gratified to learn a few weeks ago that again several Canadian officers, including a number of members of the medical profession, had been mentioned in recent despatches from the officer in command of the Canadian forces now in Flanders. The names included those of Col. J. T. Fotheringham, C.M.G. (now in France as Chief of the Canadian Medical Staff); Lt.-Col. V. W. Odlum, D.S.O., Commanding Officer of the 7th Battalion (a nephew of Dr. N. A. Powell); Major John A. Amyot, who, before leaving for the Front, was secretary of The Provincial Health Laboratory, Toronto; Lt. Sidney S. Burnham, 19th Battalion, son of Dr. G. H. Burnham, Toronto. Lt. Burnham is a brother of Dr. Howard Burnham, of the artillery branch, who was also mentioned in despatches a few months ago. It is certainly a pleasure to learn that the men from Canada are being so appreciated for their work.

Obituary

Dr. Egerton C. David, of Picton, Ont., died at Rockwood Hospital on April 20th, aged sixty-seven.

Dr. Angus McKay, of Ingersoll, Ont., died on May 7th in his sixty-fourth year.

Dr. D. H. Lancaster, of Culloden, Ont., died on April 23rd in the seventy-ninth year of his age.

Dr. J. Oscar Pilon, of Rosemount, Montreal, died on April 22nd, after a short illness, aged twenty-eight. He leaves a widow and child.

Dr. E. M. Paterson, of Oakland, Cal., died at the age of seventy-two. He was born at Picton, N.S., and practised for a short time in Fredericton.

Dr. W. J. Teasdale, of London, Ont., died on May 17th, in his fifty-sixth year. He was born at Markham, and graduated from the University of Toronto.

Dr. Frederick Townsend died at Sault Ste. Marie, Mich., on May 4th. He was born at Brampton, Ont., in 1868, and graduated from the University of Toronto.

Dr. W. A. Christie died at Montclair, N.J., on April 29th, aged fifty-five. Dr. Christie practised in St. John, N.B., until about two years ago, when he went to New Jersey.

Dr. R. W. Hutcheson, of Rockville Centre, L.I., died a few weeks ago. He was credited with having been the first physician in the United States to use antiseptics in surgical operations.

Dr. T. W. Vardon, of Galt, passed away unexpectedly at the Waterloo Golf and Country Club on June 30th. Dr. Vardon was seventy-three years of age, and was born a few miles from Toronto in Pickering Township. He was a graduate of Victoria College, and commenced practice in Markdale. He was ex-Mayor of Galt, ex-President of the Waterloo Golf and Country Club, and for years a member of the Ontario Medical Council.

Dr. Ernest B. C. Hanington, of Victoria, B.C., died suddenly on May 10. Dr. Hanington was the son of the late Hon. Daniel Hanington, President of the Legislative Council of New Brunswick, and was born in 1851 at Shediac, N.B. After graduating from McGill University in 1875, he became Medical Superintendent of the General Public Hospital at St. John, N.B. Three years later he went to British Columbia as Medical Officer of the Canadian Pacific Railway between Boston Bar and Lytton, and shortly afterwards went into practice in Victoria.

Lt.-Col. James Ross, M.D., C.A.M.C., died suddenly at his residence in Halifax on May 8th. He had attended to his military and civilian duties during the day and was apparently in the best of health, death being due to apoplexy. Lt.-Col. Ross was the son of the late Senator William Ross of Halifax. He graduated from McGill University in 1890, and went into practice in his native city. He was a specialist in diseases of the skin, and enjoyed a large practice. He had been connected with the Canadian Militia for years and was Lieutenant-Colonel of the Stretcher Bearer Corps of the Canadian Army Medical Corps. He had been on military duty since the commencement of the war, and had volunteered for Overseas Service.

MOTION PICTURES IN THE SURGICAL WORLD

Editor Canadian Journal of Medicine and Surgery,
Toronto, Canada.

Dear Sir,—I have read your editorial on "Motion Pictures in the Surgical World," and I have taken a great many pictures of surgical operations and surgery. I consider that your editorial is the most important thing that has been printed in relation to Scientific Management in hospitals, although it does not appear under that head. I wish that everybody in the world interested in hospitals, directly or indirectly, could read that editorial.

It is a frightful waste to have young men after they have finished their college courses travel promiscuously and without any knowledge whatever of where they will find the best, and to return home disappointed that most of the things that they saw, after travelling hundreds and perhaps thousands of miles, were no better than what they had already seen in the hospitals in which they had done their own work. The work done by a man making a permanent record, such as a motion picture film, is entirely different from the work done by any one who realizes that in but a few moments his *Method* can not be seen or visualized, and only the *result* can be measured, and whether the result has been found good or bad the exact method that caused the result has escaped forever, and can never be actually identified. To those who have not yet arrived at the point where they understand that no one uses the methods that they think that they do, this statement will seem queer, but recent investigations in our laboratory in Providence have shown that our present educational methods are needlessly crude.

However, the motion picture is not all that is needed in this work. Some of the other things are described in the July number of *The World's Work,* published in New York. An article there by Mr. Reginald Townsend shows what he saw in one day's trip to our laboratory, and I assure you that I would be very glad to have you make a similar trip, if you so desire.

With best wishes for your continued success and many thanks for your hearty co-operation in this great movement, I remain,

Very truly,

F. B. G.

The Physician's Library

Post-Mortem Examinations. By William S. Wadsworth, M.D., Coroner's Physician of Philadelphia. Octavo volume of 598 pages with 304 original illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $6.00 net; half-morocco, $7.50 net. Sole Canadian Agents, The J. F. Hartz Co., Ltd., Toronto.

This book is so handsomely got up, and so elaborately illustrated, that anyone looking for information may be deceived if he does not at once find what he wants. But there are many difficulties in writing a book of this kind that few, if any, of us appreciate until we attempt it.

Many a man may read a large part of this book and feel that he has not discovered very much that he did not know already, but if this is the case he forgets that probably what he does know he learned by making post-mortem examinations himself and working out the meaning of certain appearances afterwards. Let him read on and he will find many valuable descriptions and suggestions, perhaps where he least expects to meet with them, and then he will discover that there is no lack of them, and that they are not only valuable as the result of careful study and actual experience, but they are rare and, in many cases, unique.

The illustrations, which are very numerous, are beautifully taken photographs, each an exact representation of the specimen from which it was taken. One would think that a photograph being in a way an exact representation of what really exists would be of the greatest value; unfortunately, this is not always the case, as all the parts of a photograph are equally marked, and therefore each of these plates must be carefully examined, bearing in mind what they are intended to show.

The part of this work devoted to the making of post-mortem examinations in medico-legal cases, as also that under the heading of Coroners' Examinations, belongs particularly to the United States, and the procedure therein followed differs so much from that adopted in Canada that the value of this part of the book is unfortunately lost, at least, so far as Canadians are concerned.

The writer of this book handles the whole subject in a very strong and forceful manner, and his book will always be read and enjoyed as that of a "thinker" who has probably made a great number of autopsies, and has put on record many valuable statistics.

A. J. J.

Encyclopedia Medica. Second edition, under the general editorship of J. W. Ballantyne, M.D., C.M., F.R.C.P.E. Volume 3. Chloroform to Dyspnea. Edinburgh and London: W. Green & Sons, Limited. 1916.

This volume is, like its predecessors, a *multum in parvo.* Its six hundred and fifty pages are devoted to a large number of subjects that are of great importance, all from the pens of men who are in the front rank of the profession in the Old Country. Among these names we find such well-known authors as Prof. G. L. Gulland, University of Edinburgh; Mr. R. C. Alexander, Assistant to the Professor of Surgery in the same institution; the late Mr. H. W. Allingham, F.R.C.S., Surgeon, St. George's Hospital; Dr. J. W. Ballantyne, Royal Maternity Hospital, Edinburgh; Mr. A. H. Tubby, F.R.C.S., Surgeon Westminster Hospital; the late Mr. H. Radcliffe Crocker, F.R.C.P., and Dr. R. Hutchison, Physician London Hospital.

One of the contributions, that devoted to Deformities, by Mr. Tubby, deserves notice. It is exceedingly lucid and well written. It takes up Deformities of the Spine and Congenital and Acquired Deformities of the Upper and Lower Limbs. The section dealing with Diet, Digestion and Metabolism is also from the pen of a master well versed in his subject. Volume three is one of the best of this series.

International Clinics. Edited by Dr. H. R. M. Landis. Series 26. Volumes I., II., III., and IV. Per volume, Cloth $2.00. Half-leather $2.25. J. B. Lippincott Co.

This issue of the International Clinics contains a wide résumé of the work being done in Diagnosis and Treatment, Pediatrics, Borderline Medicine, and Surgery. A paper by May on Chorea will instruct and aid many who have long studied the affliction. A review of the advances of medicine in the year 1915 is particularly valuable. For variety of subject and excellence of treatment we are unable to recall any volumes to excel these International Clinics.

Volume II. contains articles by noted physicians on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynaecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. Several other articles of rare value appear in this work.

In Volume III. there are nine articles on Diagnosis and Treatment, four on Paediatrics, eight on Borderland Medicine, and four on Surgery. Dr. John B. Robert's article on "The Treatment of Fractures of the lower end of the Radius, by Reduction and Contour Splints," is especially timely.

Sir Wm. Osler, Bart., M.D. F.R.S., has a splendid résumé of "The Coming of Age of Internal Medicine in America," in Volume IV. There are other important articles by Mayo, Crile, Ballantyne and seventeen others. The subjects are of especial importance, and are treated by master hands.

Mentally Deficient Children. By G. E. Shuttleworth, B.A., M.D., and W. A. Potts, M.A., M.D. H. K. Lewis & Co., Ltd., 136 Gower St., London. P. Blakiston's Son & Co., Philadelphia. Fourth Edition. 1916.

The third edition of this valuable book is exhausted and the new edition has been thoroughly revised and carefully brought up to date.

Since the issue of the third edition "The Mental Deficiency Acts" for England, Wales and Scotland have been passed, and

other changes have necessitated the rewriting of many parts of the book.

Chapter VI., dealing with the mental disturbances of childhood, has been added, and we hope that in future editions more attention will be paid to this subject.

The illustrations have been increased in number and have been better arranged.

A French translation of this book has been published, and permission to translate it into Japanese has recently been requested.

The book has a great many excellent features. The Bibliography, the Index, the list of Reports, all have their own value, and Mental Tests are also given.

The chapters on Treatment and Educational Training are most interesting, and the book may be recommended to those interested in the subject, not only on account of the thorough, accurate and scientific information contained in it, but because of its suitability for the public, as well as for teachers and the medical profession.

Dr. Shuttleworth and Dr. Potts have again laid those interested in this subject under a debt of gratitude.

The Starvation Treatment of Diabetes. With a Series of Graduated Diets used at the Massachusetts General Hospital. By Lewis Webb Hill, M.D., Children's Hospital, Boston, and Rina S. Eckman, Dietitian, Massachusetts General Hospital, Boston. With an introduction by Richard C. Cabot, M.D. Second Edition. Boston, Mass.: W. M. Leonard. 1916.

When the first edition of this little work appeared last year we felt that a marked advance had been made in the treatment of Diabetes. We are glad to welcome the second edition so soon after the first, and to note the valuable additions to the contents. There are some instructive case reports, and those who have encountered the difficulties of varying the diets in patients' homes will be delighted at the number of recipes of palatable combinations made available for the poor diabetic. We feel sure every physician should have a copy of this little work on his desk.

Games and Exercises for Mental Defectives. By Hilda A. Wrightson. The Caustic-Claflin Co., Cambridge, Mass.

This is a helpful book for teachers of ungraded or special classes for feeble-minded children. Indeed, it is really the first to enter a field which probably many will enter in the future.

The author must have had a great deal of experience with the work of which she writes, and no more practical book could be put into the hands of teachers who are taking up auxiliary class work.

Dr. H. H. Goddard contributes a preface in which he points out that the most natural and effective way to interest feeble-minded children and teach them, is through games, by which definite training may be gradually and thoroughly secured. Thus not only co-ordination and attention, but manners, morals, unselfishness, patience and self-control may be developed.

Miss Wrightson gives three pages of valuable practical hints on training mental defectives.

About one hundred and fifteen games are given, all carefully graded. A good index is supplied.

The book is an excellent one, and valuable to teachers of the feeble-minded.

Surgical Operations with Local Anesthesia. Second Edition. By Arthur E. Hertzler, A.M., M.D., Ph.D., F.A.C.S. Surgeon to the Halstead Hospital, Kan., The Swedish Hospital, Kansas City, Mo., and to the General Hospital, Kansas City, Mo. Surgery Publishing Co., 92 William St., New York. Price, $3.00

This edition is a much more comprehensive one than its predecessor, and will be found to be useful not only to the occasional operator, but to the surgical specialist. The subject is very thoroughly covered, and the literature exhausted. The book will be found of great value to the operating surgeon.

83

The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. XL. TORONTO, SEPTEMBER, 1916 No. 3

Editorials

A CERTAIN BLIND SPOT

THERE is in the vision of most educators along medical lines a large blind spot as bearing upon the proper preparation of their students for handling patients the moment they hang up their shingle. One college, however, has corrected this defect by sending abroad, in antebellum days, one of its most clever and enthusiastic young professors, to study European methods. He was given *carte blanche* both there and on his return. What did he choose to work upon, when he came back to his Alma Mater? He chose nursing care applied as a therapeutic measure with medical cases, and were his scheme to be followed *in petto* in every branch of work for students in obstetrics, surgery and pediatrics as well, they would derive the following benefits of inestimable value directly to their patients and therefore indirectly to themselves:—

(1) They would understand more readily the routine of hospitals, while internes, and more willingly lend themselves to its workings.

(2) They could determine the length of time required for finding the results of a treatment or a change in infants' feeding formulæ.

(3) They could in private practice check up much more accurately than at present the skilled work of a trained nurse, and instruct as well as demonstrate to the "practical" nurse or domestic untrained helper.

(4) They would arrive at much shrewder knowledge about warning people *what not to do.*

(5) They would acquire an aptness or knack in giving hypodermics, bandaging, breast massage, etc., without injury to their own patients on whom at present they must learn.

(6) They would never make mistakes with lysol and other drugs.

It seems possible, where a college is conducted in conjunction with a hospital, for the students to give all the usual treatments a certain number of times, quite as many as a nurse must, to become apt at it, since, in general practice, for some few years at least, he will have to do all those things himself or leave them to the unskilled. This could be established by a card system much the same as is used by nurses in training. It would be a most desirable position for a clever nurse to occupy, that of demonstrator to the students, under the orders of the chief of the

clinic. Where some colleges have to be conducted without access to a hospital with *every* form of service, medical graduates should adopt that method while internes, with the chiefs of the services controling the schedule of nurse demonstrators.

One interne in a small southern hospital of sixty beds burned a male patient horribly by a generous application of pure lysol to the genitals. The man was a private patient and there was no suit against the institution. A second young physician, having seen lysol used while in the hospital, used it on his first maternity case. He had carelessly never inquired as to its nature, or strength required, and when he made his first vaginal examination, he used it pure. An instantaneous burn on her thigh was the result and a sufficient warning not to use it further. Strange to relate, it did not injure her mucous membranes! True, lysol is a proprietary drug, but who would be without it in obstetrics? Then again, in treatment methods, few internes would put a patient in the Sims position for an enema. If there were a possibility of antipathy towards a nurse demonstrator, it could be obviated only by having one of the junior professors act as demonstrator, and to the average mind it would be much more suitable to have a clever woman show young students how to make a bed, than to have a medical practitioner make beds, bathe infants, etc., in the presence of a large number of his kind.

It is, however, a lamentable fact that the man in general practice is greatly hampered by the lack

of nursing care for his poor charges. It is quite remarkable to see how imitative some of the foreigners are, especially the Italians, introducing at once anything they have seen a nurse or physician do. They would absorb instruction gladly. But how can a doctor teach them unless he himself has done the thing with his own hands?

There is a therapeutic value in a well-made bed, clean, cool and crumbless. An essential point in prophylaxis is in boiling infected bed linen, airing and sunning blankets, and disinfecting a room. Between the Board of Health and the physician, the family evades its duty. The doctor covers more cases than the district nurse, and his responsibilities are more far-reaching. Of course, he is not paid well enough to get a reward for this in money, but he does in success and fame. Certain stereotyped instructions may accompany certain light typical cases, by a system of cards which the physician hands out, and demonstrates or explains before leaving. They at least serve as a reminder of things he is so absorbed as to forget without something to jog his memory.

The successful practitioner also gives "follow-up" instructions regarding a case, as to diet, exercise, posture, amount of sleep, recreation, and business responsibility when he discharges a case. He is not then annoyed by frequent petty visits or telephone calls.

PUBLIC MORALS

In two flourishing towns, only twenty-one miles apart, in a very much civilized (?) part of the world, occurred two lamentable conditions, in which physicians had to play the part of counsellor and guide. In the one, out of a large class of high-school graduates in a population of ten thousand, were born in one summer eleven illegitimate children. The parents did not seem greatly to care. They offered no remedy. They made no investigation. They probably felt that they themselves could not reproach their daughters without hypocrisy. In the other instance, there was a sudden large increase among married women in the number of abortions, due, probably to the increased cost of living and the persistent increase in luxury.

Both these conditions were handled by physicians who met on common ground in societies and friendly gatherings of informal nature. They are puzzled about what course to pursue. Both conditions menace the public weal. Both will wreck the health of the women, exposing them to infection, in varying ways, of course. Both should be taught how to care for themselves and how to curb their desires. This applies equally to men and boys, since they are really more directly responsible, and also equally disgraced if it were their sister.

The great cure-all for these conditions is healthful labor, which acts in a twofold way, purifying the vision and fostering healthy appetites, while working off the evil desires by fatigue.

Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

Reprints supplied at Net Cost

Original Contributions

THE TREATMENT OF DIABETES MELLITUS*

BY ELLIOTT P. JOSLIN, M.D., BOSTON.

Rather more success is achieved by surgeons in the treatment of general peritonitis than is attained by physicians in the treatment of diabetic coma. In neither condition are the statistics flattering to the profession; but the successes obtained by our surgical colleagues in the prevention of general peritonitis make the failure to prevent coma as a cause of two out of every three diabetic deaths mortifying to say the least. We physicians should begin to regard diabetic coma in the same light as your British brother, Mr. Moynihan, has taught the medical fraternity to look upon the late stages of a neglected gastric ulcer, namely, as an emergency which should not have been allowed to arise.

With this issue of the prevention of diabetic coma plainly to the fore as the cardinal point in the treatment of diabetes, it is pertinent to inquire what diabetic patients are most susceptible to coma? And your own experience will enable you to anticipate that the answer, which an analysis of my own fatal cases shows, will be children. Of the sixty-two diabetic children under the age of fifteen who have died under my care, coma was the cause of death in all, and the significance of this melancholy fact is this: that where diabetes appears in its most severe type, as in children, coma is its expression. The propositions are simpler to state than to execute—first, that the best way to avoid coma is to prevent the progress of a case of diabetes from the mild into the severe type, and second, to protect

*Address in Medicine, Ontario Medical Association.

the patient from all those agencies such as infections, anesthetics like chloroform and ether, undue exertion (mental or physical) which tend toward intensifying the severity of the disease. For if the diabetes is kept mild or moderate the coma need not be feared.

Next to the children in the frequency of death from coma, strange as it may appear, were those of my cases who succumbed during the first year of the disease. The cause of death in eighty-seven per cent. of these was coma. But diabetes is a chronic disease and the first year of its course should be mild rather than severe, and in mild diabetes coma should find no place.

Just as the health officials of a city, zealous to lower its death rate, concentrate their efforts on those sections of the city with the highest mortality, so should we, in the treatment of diabetes, concentrate our efforts where mortality is also greatest—on the children and on those patients who have recently developed the disease. To-night attention will be directed upon the treatment following immediately upon the detection of the disease, for this is where the highest mortality in diabetes now exists.

Reference has just been made to a mortality of 87 per cent. from coma among diabetics who die during the first year of the disease. Is the term "first year of the disease" quite accurate? It is meant to be accurate. I have most conscientiously tried to fix a definite date for the onset of diabetes in all my cases. But honestly would it not be more truthful to say the first year of the recognition of the disease? And herein lies a vast difference, which gives rise to serious reflection, for it is in the first year of the *recognition* of the disease that treatment is begun, and the highest mortality occurs. Disagreeable as such an implication is to hear, some support of it is afforded by the fact that with the increase in the knowledge of the treatment of diabetes, the mortality for the first year of the disease has decreased. It is significant that whereas between the years 1824—1898, of those cases of diabetes dying at the Massachusetts General Hospital, the duration of the disease was under one year in 68 per cent.; for the subsequent fifteen years ending November, 1913, Dr. Brigham and I are able to say, thanks to

the courtesy of the hospital authorities, that the mortality during the first year of the disease had fallen to 41 per cent. My friend Professor Naunyn, whom all of you will recognize as a master of diabetes, though his case must have been treated during the generation previous to ten years ago, showed a mortality of only 28.2 per cent., which was the same, as far as I can determine, for the city of Boston for 1915. The period of my own activity has been later, and so more favorable; perhaps my cases have been less severe, and this may explain first why but 17 per cent. of my own cases have died during the first year of the disease, and second, the more encouraging feature that 95 per cent. of those living have already gone beyond this period. In fact, my own experience is against the idea that properly treated diabetes runs an acute course. Such figures, while they afford reason for gratification at the improvement in treatment, also furnish proof that the high mortality in the first year is unnecessary, and in what follows will be indicated how the development of acid poisoning during this period may be avoided and how to conquer it before coma results.

The prophylactic and etiological treatment of diabetes will surely play an important rôle in the future, and it is already plain that progress will be along two lines: first, towards the early detection of the disease in those susceptible to it. The whole trend of Naunyn's teaching favors the energetic treatment of the slightest evidence of diabetes. The importance of the early treatment of pulmonary tuberculosis is not greater than that of the early treatment of diabetes.

The only way in which an early diagnosis of diabetes will ever be made is to seach for it. The favorable results in fifty-seven of my cases of diabetes revealed by life insurance examinations cannot be explained by the mildness of the diabetes discovered. It is a hopeful sign that the insurance companies are offering to examine the urines of their policy holders gratis at frequent intervals. Everyone should have the urine examined upon his birthday.

Diabetes should be sought in the families of diabetic patients, and in order to allay anxiety of urinary examinations, it is a good plan to have these made with such frequency that they will become simply a matter of routine. Such individuals

should be taught to regulate the quantity of food eaten by the body weight, and never to indulge in unusual quantities of carbohydrate.

No pre-existent abnormal condition has occurred more frequently among my diabetic patients than has obesity, and it affords a splendid opportunity for the physician in which to practise preventive medicine. Patients should be cautioned against suddenly gaining weight at any period, but particularly after infectious diseases. The development of diabetes following infectious diseases and in the course of pregnancy always should be borne in mind. Finally, anything which tends to promote the mental and physical welfare of the patients will tend to prevent the onset of diabetes.

Surgery may find a field for treatment in the future more than it has in the past. I recall eight cases of diabetes associated with gall stones which have run an unusually favorable course as soon as the symptoms of gall stones have subsided, either as a result of medical or of surgical treatment.

That temporary periods of under-nutrition are helpful in the treatment of diabetes will probably be acknowledged by all after these two years of experience with fasting. In no other way can one so readily keep the urine free from sugar, and this is the foundation of all diabetic treatment. With a sugar-free urine there is seldom any opportunity for coma. The inauguration of the treatment and the prolonged continuance of the same are problems which present the most difficulty. Practically the only danger associated with the former is the possibility of acid poisoning at the beginning of the fast, though it can be emphatically stated that it is the rule for acid poisoning to decrease rather than to increase as the fast continues. But on account of the few cases where it does increase it is safer to prevent acidosis than to allow it to develop. This is the reason for what might be called a preparatory treatment for fasting, for it can be assumed that a method of treatment which approaches or embraces fasting is the best method we possess. It is a sound rule of all treatment that patients coming to the physician in an endurable state must not be made worse or have their lives jeopardized by the therapeutic procedures adopted.

Treatment is simplified if acidosis is prevented, because no urinary tests will, as a rule, be required save a qualitative test for sugar and the simple ferric chloride reaction for di-acetic acid, and such simplification of method is necessary when we realize that most physicians do not have more than five or ten cases of diabetes a year and therefore cannot devote to these a proportionately large share of their time.

Individuals predisposed to acidosis are those in whom the disease is of long duration. These are the patients who, after having lived in a fairly comfortable condition for years, finally succumb to active treatment within a few days of its commencement. All complicated cases, especially those in which the complication involves the kidneys, heart or thyroid, demand preparatory treatment, for they are especially susceptible to acidosis. In this group are also included elderly patients, because of their vulnerable kidneys. Very fat diabetics could appropriately be included, and so too, patients about to undergo surgical operations. Finally, all patients showing signs of acid poisoning demand this preparatory treatment before the fast, unless the physician is in a position to watch quantitative changes in the acidosis from day to day.

The principle upon which preparatory treatment is based is simplicity itself—the exclusion of the source of the acid poisoning. Since the chief source of acid poisoning is fat, this constituent of the diet is prohibited before any further change is made. If this rule is adopted, the opportunity for the patient to develop acid poisoning is greatly reduced, and for two reasons: first, the chief source of acid bodies is removed, and no fat is then available for the formation of acid bodies except the fat of the body; second, in consequence of the partial fast, which is thereby initiated, the possibility of oxidation of some of the carbohydrate which the patient is eating is afforded, and if this should fortunately take place, acidosis is sure to decrease. So strongly have I been impressed by the stormy career of the diabetic patients in whose diet carbohydrates have been suddenly restricted and fat increased, in contrast to the placid course which those pursue from whose diet fat has been excluded and the carbohydrates left unchanged, that whenever I am asked to see a new case of diabetes I beg the physician either not to

change the diet at all, or to simply omit the fat until the consultation takes place, and when the patient actually comes for treatment I first omit all the fat in the diet, after two days the protein as well, and then have the carbohydrate on successive days until ten grams are reached unless the patient is already sugar-free, and thereafter fast.

The days of preparation for the fasting are also advantageous in that they allow opportunity to examine into the general condition of the patient. It would be absurd to feed a patient without teeth with coarse vegetables, or to give these to another patient who has diarrhœa. The bowels must be thoroughly opened, but I do not believe in free catharsis. Gain enough is obtained if a movement is produced once in twenty-four hours when it has only been taking place once in three days. In other words, do not upset any patient who is in a tolerable state. Furthermore, allow the patient to continue his regular routine, avoiding excess in any direction. Remember what happens to an old man who is suddenly confined to bed, and the discomfort which follows confinement following a fracture. Do not force a temperate man to drink against his will.

An advantage which the omission of fat from the diet affords is the rest which is given to the digestive tract. Former treatment, which increased the fat in the diet, was the converse of this, and frequently led to vomiting, with the result that patients on the verge of coma fell into it. In every way seek to prevent worry on the patient's part, and from the start give them to understand that they are at school rather than at a hospital.

After the preliminary measures have been taken to prevent the appearance of acidosis one may proceed with fasting. Fasting is never so rigorous as doctors or patients expect. Patients are more ready to undergo it than physicians to prescribe it. Quite as often it is as much a relief to the patient as it is a discomfort. This is in part due to the gradual decrease in polydipsia and polyuria. Headache occurs less frequently than I expected, and is usually dispelled by a cup of coffee. Nausea almost never occurs unless a patient is given alkali or alcohol. Children bear it more easily than adults. Case No. 899 with onset at 83 shunned it and rightly, but she became sugar-free and her family, at first reluctantly, but now emphatically,

agree, with distinct benefit. In fact, it is always desirable to avoid fasting in the old, and this can ordinarily be accomplished by the help of preparatory treatment, because the simple omission of fat and reduction of protein and carbohydrate will usually suffice to make the urine sugar-free.

Fasting does not seem like fasting to the patients when they receive coffee, tea, cracked cocoa and broths, and are given an unlimited supply of water. If the quantity of urine, as it often does, falls to less than normal, the patients are urged to drink water freely. Clear meat broths are a great satisfaction. Contrary to my experience with digestive cases, broths do not stimulate the appetite in fasting diabetics; they relieve it. The advantage of broths is probably due in part to this, but to a considerable extent to the patient receiving salt by which he may maintain the equilibrium of the body fluid. It is possible that the salt is a more important factor in the treatment than has been supposed.

Patients should not be kept abed during fasting, neither should they be forced to be up all day. They should be afforded diversion by visits from friends, walking short distances, easy handiwork, playing games, letter writing and reading. In general they are glad to rest for the greater part of the first day of the fast, but upon each succeeding day I have noticed that they are desirous to increase the amount of exercise, and the exercise appears to lessen the necessity for a prolonged fast. Case No. 765, a trained diabetic, who returned to the hospital in order to become sugar and acid-free, at the end of three and one-half days of fasting, enjoyed, without fatigue, going to the theatre. I confess this was not with my advice, for I have endeavored to prevent exposure to any infectious disease of all diabetic patients during fasting. However, Case No. 938, a child of two and one-half years, underwent fasting treatment successfully in the presence of a mild infection of the upper air passages.

It is surprising how variable is the period required to render the urine sugar-free. Frequently a urine which contains 7 per cent. of sugar becomes sugar-free after four meals of fasting, and conversely a urine with only three per cent. of sugar may still retain traces after the patient has been deprived

of food for three or four days. In general cases seen soon after onset become sugar-free promptly, whereas the reverse is generally true for those of long duration. Children showing large quantities of sugar have also become sugar-free very promptly when the duration has been only a few weeks. I have a suspicion that cases of long standing will actually become sugar-free more quickly if they undergo preparatory treatment than if they are fasted immediately. This may be due to the avoidance of even a slight acidosis. Even a slight acidosis must be conquered.

The observation of Folin and Denis that an obese individual, though otherwise normal, developed marked acidosis upon fasting, but went through a second period of fasting with less acidosis than the first and the practice, observed by many clinicians of the old school, who advantageously fasted their diabetics one day a week, has given the cue to intermittent fasting.

For a good many months none of my patients have been subjected to a fast of more than four days. A prolonged fast is unnecessary, and even if the fast is carried out, it is doubtful if the patient would always become sugar-free. The apparent reason for the persistence of sugar in Case No. 610, who fasted for nine days, was the presence of a vulval abscess, and inquiry among my friends shows that an infection of some kind is usually present when glycosuria persists after a fast of a few days' duration. This is not always the case, for the difficulty in rendering the urine sugar-free may be simply due to the extreme severity of the disease.

Alternate feeding and fasting are adopted when it is found that the glycosuria persists after a preliminary four days' fast. The method which I have found most successful has been to allow, following the first fasting period, 20 to 40 grams carbohydrate—not far from half a gram per kilogram body weight—and about one gram of protein per kilogram for two days. The sugar promptly increases in the urine, but if one averages the excretion of sugar in the urine of these two days with the two days at the beginning of the fast, the result is encouraging. Then fast again; but the second fast is a day shorter than the

first, and the second period of feeding a day longer, until by the fourth period of fasting the patient goes without food only one day and then is given food for four days. This schedule need not be followed exactly, but the general plan has proved most efficacious.

When the 24-hour quantity of urine is sugar-free one can usually give a few grams of carbohydrate to the patient without the appearance of glycosuria. The carbohydrate is generally given in the form of five per cent. vegetables, choosing those which are especially bulky. A plateful of lettuce appeals much more to the patient than a small saucer of string beans. When a mixture of five per cent. vegetables is given one can be quite sure that the average content of carbohydrate is not more than three per cent., or approximately 4½ grams for the 150 grams prescribed, and for convenience sake this is reckoned as one gram of carbohydrate for each 30 grams (one ounce). This small amount of food, of course, has little nutritive value, but is enough to break the fast. Upon succeeding days 5 or 10 grams of carbohydrate are added daily. A patient fasting or on a very low diet often shows an apparent tolerance for carbohydrate far in excess of that which he would have shown if the necessary protein and fat in his diet were simultaneously administered.

Following the trial with five per cent. vegetables the addition of carbohydrate can be made according to the desire of the patient until the tolerance is determined.

With children one often makes the mistake of increasing the carbohydrate five grams daily, forgetting the fact that five grams of carbohydrate to a child weighing twenty kilograms is in the same proportion as fifteen grams of carbohydrate to an individual of sixty kilograms.

Patients who have lived for a considerable length of time on a comparatively low tolerance for carbohydrate may upon trial show that the real carbohydrate tolerance is much greater than supposed. The most striking example in my series has been the patient already referred to—No. 610, who fasted for nine days without becoming sugar-free. During the last twelve months she has lived comfortably, but the quantity of carbohydrate in the diet has been represented by 60 c.c. of cream (two

grams) for all her vegetables have been thrice washed. Despite this rigid diet sugar kept recurring every few days, but she persisted to drive it out by fasting. Recently upon re-entrance to the hospital she became sugar-free overnight, and thereafter the steady addition of 10 grams of carbohydrate a day in the form of vegetables up to 55 grams, failed to cause glycosuria, to the surprise of us all. At length, as a test, she drank 55 grams of laevulose and even then the urine remained sugar-free. At this time the protein in the diet was represented only by that contained in the vegetables. Thereafter it was gradually increased, and along with it a little fat, so that finally, at the end of ten days following her re-admission to the hospital, she was taking 55 grams of carbohydrate, a gram of protein per kilo, and at this writing sufficient fat to be equivalent to about 25 calories per kilogram body weight. Contrast this picture with that of a year ago, when it was necessary for her to fast nine days to make the urine sugar-free and when a diet of two grams of carbohydrate led to the appearance of sugar in the urine. This very recent experience has given renewed hope to my patients who have been watching its development and to me. It is a fresh demonstration of the efficacy of energetic treatment.

As a rule when the urine has been sugar-free for two days, 20 grams of protein are added to the diet, and thereafter 15 grams of protein daily until the patient is receiving one gram per kilogram body weight. The protein may be given either in the form of eggs, lean meat or fish; an egg of average size contains approximately 6 grams of protein and 30 grams (1 ounce) of lean meat contain approximately 8 grams. By this arrangement a patient weighing sixty kilograms would be taking, within six days from the time he became sugar-free, one gram of protein per kilogram body weight. This quantity is quite satisfying to all except children—in fact, it astonishes me to find how few patients care to take as much as a gram and a half of protein per kilo body weight. Children, however, crave and need considerably more, and indeed take with avidity as much as two grams protein per kilogram body weight.

Fish is especially desirable in the early days of protein feeding because it contains so little fat. Cod and haddock, for example, contain less than one per cent.

The advantage of giving and increasing protein simultaneously with the determination of the carbohydrate tolerance is that one approaches more nearly normal conditions. What the physician is after is to determine the carbohydrate tolerance while the patient is on a full diet, and not the tolerance for carbohydrate alone, but it is possible that one should defer the addition of protein a few days longer if the carbohydrate can be steadily increased without the appearance of sugar.

There are very few patients who will not bear at the outset as much as one gram of protein per kilogram body weight, and I am very loath to allow the protein to remain permanently below this figure. This can be avoided by still further restricting the carbohydrate, either temporarily or permanently. It is always necessary to bear in mind that one food which the diabetic patient cannot do without is protein, and to it everything else must be subservient.

While testing the protein tolerance, a small quantity of fat is included in the eggs and meat given. It is not at all disadvantageous—in fact, the same rule holds for the testing of the carbohydrate and protein tolerance in the presence of fat as has been said for protein alone. There are two important reasons why fat is not given to the diabetic patient immediately upon his becoming sugar-free: First, by the omission of fat partial fasting is continued and thereby the patient is gaining a tolerance for carbohydrate, and second, the continued omission of fat is beneficial in counteracting the last vestige of acid poisoning, or preventing the appearance of acid poisoning, which easily might occur in a diabetic patient whose metabolism has not become accustomed to so low a quantity of carbohydrate. But so soon as the patient has received the essential gram protein per kilogram body weight, the fat in the diet should be increased above the 15 to 20 grams which undoubtedly are introduced with the protein ration. If the patient is one in whom acidosis has been an essential factor, or if the patient is obese, the fat should be increased slowly, and for such a patient an increase of five to ten grams a day may be all that he can take without the recurrence of a positive ferric chloride reaction in the urine. On the other hand, attention is called to

Case No. 765, who, after persistent periods of intermittent fasting, became sugar and acid-free, and yet the immediate addition of thirty grams of fat per day failed to cause the reappearance of acidosis. Cases which have shown little acidosis may easily be allowed an increase of twenty-five grams fat daily, and for such cases this is desirable, because it rapidly brings the total caloric value of the diet up to a normal figure. Naturally, patients in whose treatment a loss of weight is desired would be given smaller quantities of fat.

The total number of calories which a diabetic requires varies not only with each case, but varies with each case each day. Schematic rules do not hold. One must remember that an individual trained to be quiet and lying down can get along with only twenty calories per kilogram body weight reckoned per twenty-four hours, whereas the average of a large group of normal men and women, not especially trained for the test at the Carnegie Laboratory, consumed twenty-five calories per kilogram body weight reckoned also per twenty-four hours. Habits of individuals vary widely. Some are quiet and some are active. All these considerations should be clearly borne in mind by doctors and patients in order not to allow themselves to be held too rigidly by any caloric fetish. Patients coming for treatment with severe acidosis consume from 10 to 20 per cent. more calories per kilogram body weight than patients after they have become sugar-free and free from acid.

After the diabetic has become sugar and acid-free, he apparently gets along, as Naunyn long ago pointed out, with a smaller amount of food than an ordinary individual. This may be so. From a study of dietary charts in diabetes it appears probable, but I do not believe the question yet settled. Before this can be done, studies should be made upon cases of diabetes of the severest type who have become sugar and acid-free, and remained so for a period of weeks. The caloric values of their diets should then be quantitatively determined. Ordinary calculations, based on dietary tables, will not suffice. Actual analyses of the diets of a group of such patients for a period of several weeks should be made. This is by no means an impracticable matter, and I think the accomplishment of it would

be of the greatest help to diabetic patients and would settle any mooted points.

Should the calories be raised above a minimum portion in severe cases of diabetes, glycosuria will return. Therefore great care must be taken to prevent over-eating and undue gain of weight.

The return of sugar demands fasting for twenty-four hours, or until sugar-free. This rule should be inflexibly followed, especially with children. In hospitals it simplifies the treatment enormously. So soon as it is understood that the reappearance of sugar means a fast for twenty-four hours thereafter, there is little tendency to break over the diet. Furthermore, most patients are thrifty enough to see the disadvantage of paying their board with no return. The rule must be rigidly enforced with children, because with them disobedience means death. When a patient has been made sugar-free by a preliminary fast, starvation for twenty-four hours will almost invariably be sufficient to free the urine at once if the sugar returns. This will not be the case unless the presence of glucose is promptly detected, and hence the necessity for the patient's examining his 24-hour urine daily. Following this accessory fasting day the previous diet of the patient may at once be resumed, except for the elimination of half of the carbohydrate, or the original course of treatment may be followed, passing through the different stages at a more rapid rate.

The advantage which the older clinician derived from the use of one day's fast in seven in the treatment of his diabetic patients should ever be borne in mind. One striking characteristic of Dr. Allen's helpful suggestions in the treatment of diabetes (and I cannot say more than I already have said elsewhere of my high appreciation of his work) has been that he has apparently sought out every method which anyone has found useful in the treatment of diabetes, tested its worth, and endeavored to adopt it to modern conditions.

The mild case of diabetes is the case which demands the most energetic treatment, but hitherto has received the least. These cases are analogous to the cases of incipient tuberculosis. As in tuberculosis, a cure may not be effected, but the disease

is held in check. Emphasis should be placed on freedom from glycosuria. Naunyn's dictum that many a severe case was originally mild, but neglected, should not be forgotten. It may not be necessary for such patients to practise fasting.

In our enthusiasm for new methods it should not be forgotten that even in the past good results were obtained with many diabetics, and that gradual restriction of carbohydrates and the total diet was the means employed. Incidentally, this is good proof that most diabetics are not severe.

It would be wrong to give the impression that the treatment of severe diabetes is simple and free from anxiety. It is true that it is much easier and causes infinitely less worry to the physician than heretofore, but these patients are in most unstable equilibrium and a little upset of trivial character may lead to much danger. The physician who treats severe diabetes successfully must constantly be in close touch with his patient. Forewarned, forearmed? I like to have at least a glance at a severe case of diabetes two, three or four times a day, and the amount of information furnished by the laboratory is never too great.

DOCTOR'S HOUSE IN TORONTO FOR SALE OR TO LET

An exceptional opportunity has arisen whereby the house of a Toronto physician (in practice for twenty-five years) is either for sale or rent. This house is situated on one of the best streets in the north-west part of the city, the occupant having recently left on active service. Arrangements can be made whereby the house can be purchased at a moderate price or leased. It is an exceptional opportunity for a young physician to form a very nice connection. Full particulars can be obtained by telephoning Hillcrest 3271.

Militia and Naval Medical Services and Ambulance

Dr. N. M. Keith, of Montreal, has joined the Harvard Medical Unit, for service with the British forces.

Major (Dr.) E. O. Steeves, of Moncton, N.B., was recently given command of the Military Hospital at Aldershot Camp, Nova Scotia.

Lieut.-Col. (Dr.) R. M. Simpson, of Winnipeg, has been appointed Assistant Director of Medical Supplies on the Headquarters Staff at Camp Hughes.

Lieut.-Col. H. A. Chisholm, D.S.O., is now A.D.M.S. of the 5th Canadian Division in England.

Major (Dr.) L. E. W. Irving, D.S.O., of Toronto, is now in command of the Canadian Division at the Woodcote Park Convalescent Hospital, near Epsom.

Major (Dr.) W. E. Nelson, of Montreal, has been transferred to No. 2 General Hospital.

Capt. (Dr.) J. H. Conklin, C.A.M.C., of Winnipeg, has been appointed to the 1st Field Ambulance Corps.

The following is the list of officers of No. 4 Casualty Clearing Hospital, recruited in Winnipeg: Lieut.-Col. S. W. Prowse, Commanding Officer; Majors, F. T. Cadham, W. W. Musgrove; Captains, D. F. McIntyre, James Pullar, J. O. Todd, R. M. B. Mitchell; Adjutant, H. F. Harman; Quartermaster, Lieut. R. G. Young.

The Military Cross has been awarded to Capt. (Dr.) John Arthur Cullum, C.A.M.C., regimental medical officer of the 28th Battalion.

Capt. (Dr.) G. G. Corbet, C.A.M.C., of St. John, N.B., has registered at the Canadian Convalescent Hospital at Bearwood Park, Wokingham, England.

Dr. Stanley has been appointed Medical Officer of Health at St. Mary's, in succession to Dr. Fraleigh, who has left for overseas service.

Dr. G. T. Wilson has been appointed Medical Officer of Health at New Westminster, B.C., in succession to Dr. A. L. McQuarrie, who has gone overseas with the 121st Battalion.

Major (Dr.) R. K. Kilborn recently gave up his position as Medical Officer at the Royal Military College, Kingston, on account of ill-health. Dr. Kilborn had occupied this position for over fifteen years.

The Profession throughout Canada were greatly pleased a few weeks ago to learn that the Hon. Dr. Beland, M.P., who was for many months a prisoner in Germany, has been released and is now in Holland.

Promotions in the C.A.M.C.: To be Lieutenant-Colonels—Majors F. W. Wilson, H. A. Chisholm, D.S.O., E. G. Davis, E. J. Williams, J. McCombe and Donald MacGillivray. To be Captains—Lieuts. S. G. Baldwin, J. E. Afleck and H. B. MacEwen.

The following officers of the C.A.M.C. have been appointed Temporary Lieutenants in the R.A.M.C.: Capt. H. B. Maxwell, Lieuts. C. E. A. Trow, M.B.; G. Stewart, M.B.; L. W. B. Braine, M.D.; T. W. F. MacKnight, M.D.; E. C. A. Reynolds, M.D.; R. A. McKay, M.B.; J. E. O'Donnell, M.D.; D. L. McKenna, M.B.; H. G. Joyce and C. E. Nelson, M.D.

Capt. (Dr.) C. J. McMillan, of Charlottetown, has been appointed second in command of the McGill Overseas Unit, now in training at Halifax.

Lieut.-Col. (Dr.) J. R. Spier, C.A.M.C., of Montreal, has been appointed Chief of the Medical Section of No. 2 Canadian General Hospital, France.

The following compose the honorary staff of the Daughters of the Empire Canadian Red Cross Hospital for Officers: Physicians—Col. Sir William Osler and Dr. J. Campbell McClure, of London. Surgeons—Sir Alfred Pearce Gould and Lieut.-Col. Donald Armour. Laryngologist—Major Badgerow. Dental Surgeon—Capt. Cameron Stewart. Dermatologist—Dr. E. J. D. Mitchell. Ophthalmic Specialist—Mr. J. B. Lawford. Capt. Creighton, C.A.M.C., is the resident medical officer.

Personals

Dr. T. B. Davies was recently appointed Coroner for Hull, Que.

Dr. S. M. Asselstine has been appointed to the Chair of Pharmacology at Queen's University.

Dr. G. S. Graham, formerly Pathologist at the City Hospital, Boston, has been appointed Chief of the Vancouver General Hospital Laboratories.

Dr. H. E. Young, of Victoria, B.C., who has for many years been Provincial Secretary and Minister of Education, was recently appointed Secretary of the Health Department and Provincial Health Officer.

Obituary

Dr. Herbert Smith, of Burin, Nfld., died after a brief illness on May 22nd, at the age of sixty-seven.

Dr. Howard F. Lyster, of Hull, Que., passed away on May 19th in the forty-fifth year of his age. Dr. Lyster was born in Montreal and was a graduate of McGill University, 1896.

Dr. J. Edgar Jones, of Digby, N.S., died rather suddenly on the 18th of May in his seventy-ninth year. It is understood that the cause of death was cardiac trouble. The doctor was born in Pictou county and practised for some time at Westport, removing afterward to Digby.

Dr. W. J. Graham died at Springfield, N.B., on May 18th. Dr. Graham was an Englishman and came to Canada four or five years ago.

Lieut.-Col. (Dr.) Arthur William Tanner, C.A.M.C., of Moosomin, Sask., died on June 5th from wounds received at the front. Before going on military duty Lieut.-Col. Tanner was A.D.M.S. for Military District No. 10, with headquarters at Winnipeg. Dr. Tanner practised at Moosomin since 1902.

Capt. (Dr.) Douglas Waterston, C.A.M.C., was killed in action in May last. Dr. Waterston left Montreal with the 9th Field Ambulance, C.E.F., and had been at the front but six weeks when he met his death. He was a graduate of McGill University, 1914, afterward receiving the appointment of House Surgeon at the Montreal General Hospital.

The Physician's Library

Elements of Active Principle Therapeutics. By Dr. J. M. French. The Abbott Press, Chicago, Ill. 1916.

To the credit of our personal friend, Dr. W. C. Abbott of Ravenswood, Chicago, be it said that had it not been for his enthusiasm and persistence as shown during the past few years the subject of Active Principle Therapeutics would not occupy the position it does to-day throughout the North American continent. It must be most gratifying to Dr. Abbott and his coworkers to watch the steady progress being made along this line, and we feel that, if they but "watch and wait" for a few years, they will reach the goal they have untiringly sought. Dr. French's book is, as he himself expresses it, a re-statement of the old truths in a new form. In his little volume he tells the profession in an exceedingly clear and lucid manner the fundamental facts of Active Principle Therapeutics, and any practitioner who is as yet not quite clear on this interesting subject cannot do better than buy a copy for his desk.

A Surgeon's Philosophy. By Robert T. Morris, M.D. New York: Doubleday, Page & Co., Garden City, 1915.

Dr. Morris has given us a very readable book of his observations on a great variety of topics, from Religion, Natural Phenomena, Mysticism and Dreams, to Women's Dress and Money Matters, and has written in a clear, pleasant, witty and well-informed style, *calamo currente*, with a facile pen.

It is a book to be kept on one's table to find food for thought and much well-digested information.

Dr. Morris is evidently a man of discernment and knowledge and has an appreciative eye for the beauties of the world

in which we live, and can also shrewdly comment *non sine quester,* but without undue derision, on many of the follies and caprices of its inhabitants, as well as genially sympathize with their joys and troubles.

The Tongue—An Illustrated Study.

We recently received from Reed & Carnrick, Jersey City, N.J., the latest booklet under the above caption. It is devoted to a study of the tongue and is quite unique and well illustrated. We would suggest that physicians who have not as yet received a copy send for one to the publishers.

Canada in Flanders. By Sir Max Aitken, M.P., with a Preface by the Rt. Hon. A. Bonar Law, M.P., LL.D., Secretary of State for the Colonies, and an Introduction by the Rt. Hon. Sir Robert Borden, G.C.M.G., M.P., LL.D., Prime Minister of Canada. With maps and appendices. Vol. 1. London, Toronto and New York: Hodder & Stoughton, 1916.

As is well known Sir Max Aitken has been and still is Canadian Record Officer, and has done an immense service, not alone to Great Britain but to the Dominion of Canada in correctly and vividly reporting the magnificent services rendered by the Canadian troops around, particularly Ypres, St. Eloi, Langemarcke and elsewhere. "Canada in Flanders" is a tale worth the telling and should be read by one and all. This book will go down in history and will be more and more precious as the years go by in proving to the full that Great Britain's daughter, "The Land of the Maple Leaf," "did her bit," and did it well during the great war, a war that we one and all trust will never, never again be possible between nations. Our readers should not wait till this volume is out of print. Get it now. It is worth reading, and still more, worth preserving.

Painless Childbirth. Eutocia and Nitrous Oxid-Oxygen Analgesia. By Carl Henry Davis, M.D. Chicago: Forbes & Company, 1916.

The author, after a brief history of anesthesia in obstetrics, reviews the numerous methods in vogue, including "twilight sleep" or the scopolomin and morphine anesthesia, showing the limitations of the various methods. The author favors the nitrous oxid-oxygen analgesia, which he has elaborated.

One may say that perhaps any method is safe in skilful hands and even obstetric forceps. The one method that the physician is most familiar with is the best to use.

The book is neat in appearance and no doubt will be read with interest by those physicians who are especially interested in the subject.

A. C. H.

Bone Graft Surgery. By Fred H. Albee, New York. W. B. Saunders Company, 1915.

This book is a review of the author's methods of using bone as a transplant. Great credit is due him for the stimulus that his work has given to the surgery of bone on this continent. For several years his papers have been appearing at regular intervals, each time presenting to the profession some new piece of technique or suggesting some new direction in which older methods can be applied. Of particular merit is the operation for ankylosing the vertebræ in Pott's disease. The idea of fusing the spines by means of an autogenous graft is entirely original with him and the results obtained by himself and others who have employed his methods, fully warrant the praise which his publications have received. Hardly less important is the inlay method of treating ununited fractures. While the technique of the latter operation cannot be called original, the insistence of the writer upon its value has led to its general adoption. By way of criticism it may be suggested that in some instances the author's enthusiasm for carpentry in the bones has led him to exceed the bounds of common sense, long and difficult techniques being introduced where simpler methods suffice.

Further, it is to be regretted that in view of the dogmatic statements indulged in by the writer, in relation to the pathological histology of transplanted bone, there is so little in his writings of a scientific nature to support these statements. From a clinical point of view, however, the work is an admirable one, well written and beautifully illustrated. The descriptions of the operations are clear and concise and the large experience of the writer in this branch of surgery make his statements, from a clinical standpoint, of the utmost value. This book should undoubtedly occupy a place in the library of every surgeon who proposes to operate on the bones.

Refraction of the Human Eye and Methods of Estimating the Refraction. By James Thornington, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. Philadelphia: P. Blakiston's Son and Co., $2.50.

Dr. Thornington has here amalgamated into one volume, three of his former works, "Refraction and how to Refract," "Prisms," and "Retinoscopy," and has certainly thereby added to their value and popularity. For the medical student and the medical practitioner beginning to take an interest in practical ophthalmology, one cannot too highly recommend this book on methods of refraction.

The Description of an Ophthalmoscope. Being an English translation of Von Helmholtz' "Beschreibung eines Augenspiegels." Berlin, 1851. By Thomas Hall Shastid, A.B., M.D., Chicago—Cleveland Press, 1916.

To every oculist this translation will be, and to every physician should be, of the greatest interest. It does not at all detract from the fame of that great physicist, Von Helmholtz, to say that in 1847, Babbage, an Englishman, devised an instrument for seeing the interior of the eye, which contained the essential features of the ophthalmoscope, as later devised by Von Helmholtz.

Emergency Surgery. By John W. Sluss, A.M., M.D., Associate Professor of Surgery, Indiana University School of Medicine, Ex-Superintendent Indianapolis City Hospital, Surgeon to the City Hospital. Third Edition, revised and enlarged, with 685 illustrations, some of which are printed in colors. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. Price, $4.00.

The third edition of this little book on Emergency Surgery, which was published with the idea of being helpful to the general practitioner, has just been published. The former volume has been revised and the work brought up-to-date.

A very interesting chapter on military surgery has been introduced, with a number of excellent illustrations.

In speaking of the treatment of septic wounds, I think it is unfortunate that no mention is made of eusol and eupad, which have been found to be of such great value in the present war. Nor is any mention made of hypertonic salt solution, which also is being used with such splendid results, nor that these two forms of antiseptics have to a large extent taken the place of stronger antiseptics such as carbolic acid and bichloride of mercury.

The book will be found to fill very acceptably the place which its author intended it to occupy.

Newsholme's School Hygiene. New Edition. Re-written for all School Workers. By James Kerr, M.A., M.D. Fourteenth Edition, 1916. George Allen & Unwin Co., Ltd., 40 Museum Street, London.

Newsholme's School Hygiene has long been known as a work of unique value to teachers and all those interested in School Hygiene. It has now reached a fourteenth edition (it was first published in February, 1887), but this edition is really a new book. This will be good news to those who are interested in teaching, in the medical inspection of schools and in school buildings.

Dr. James Kerr, of London, England, "The First School Doctor," who has re-written this book, is so favorably known

among educational and medical workers that it has been a frequent subject of regret among them that he had not placed in permanent form the great store of valuable information and original ideas possessed by him. He has at last done so to some extent, in this book which should be read by all those interested in children and their education.

One observes with wonder, as well as with great interest, how much valuable information and how many important principles are adequately presented in the brief space of twenty-three chapters, composing the book.

Part II on apparatus is devoted to sites, buildings, heating, lighting, ventilation, school furniture and school cleaning.

Dr. James Kerr is to be congratulated on the great success which has attended his effort in the cause of education and school hygiene. His book is the most useful and most interesting we have seen upon the subject.

Pollen Extracts in Hay Fever. A pamphlet on Pollen Extracts and their adaptability to the prophylaxis and treatment of hay fever, comes from the press of Parke, Davis & Co.

"As regards the symptom complex known as 'hay fever,'" says the booklet by way of introduction, "there is no doubt in the minds of the majority of authorities at the present time that it emanates from the pollens of the flowers of various grasses, shrubs and trees. Elliotson, in the early part of this century, was the first to suggest the relation of the pollens of grasses to hay fever, but it was left for Blackley and later Dunbar and his pupils to definitely prove in a scientific manner this relationship.

"At present the pollen diseases are defined as a group of vasomotor disturbances of seasonal periodicity, depending upon individual hypersensitiveness to the pollens of certain plants, and characterized by exudative catarrhal inflammation of the nasal, tracheo-bronchial, and conjunctival mucous membranes. In Canada two varieties of hay fever are recognized—the spring variety, due to the Graminaceae, especially timothy grass, and

the autumnal variety, due to the Compositae, especially the ragweeds.

"It has also been established by Freeman, Goodale and others, as a result of much experimental and clinical work, that individuals who are susceptible to the proteid of one pollen are sensitive to proteids of other pollens of the same family, and that protection can be produced in the majority of patients by immunization with the extracts of the pollen of the most frequently encountered representative members of that family. Hence, Ragweed Pollen Extract will protect against members of the family of Compositae, and Timothy Pollen Extract will protect against members of the family of Graminaceae. These two extracts, therefore, will be found suitable for prophylaxis and treatment for the large majority of cases of hay fever encountered."

In addition to the two extracts mentioned in the foregoing, announcement is made of a third product, Pollen Extract Combined. The three varieties are briefly described as follows:

"1. Timothy Pollen Extract, for the estimation, prophylaxis and treatment of the spring or vernal variety of hay fever.

"2. Ragweed Pollen Extract, for the estimation, prophylaxis and treatment of the autumnal variety of hay fever.

"3. Pollen Extract Combined, which may be used in either vernal or autumnal hay fever, but is especially indicated in cases which begin early and last long, showing susceptibility to the early and late pollens."

The prophylactic and therapeutic use of the extracts is, of course, fully covered in the pamphlet, which also contains excerpts from articles by various well-known authorities—Ulrich of Minnesota, Freeman of London, Lowdermilk of Kansas, Koessler of Rush Medical College (Chicago), Cooke of New York City, and others. It is not extravagant to say that the booklet, which bears the title "Pollen Extracts," is a valuable contribution to our current literature on the subject of hay fever. A copy of it may be obtained on request from Parke, Davis & Co., Walkerville, Ont.

Gynecology. By William P. Graves, A.B., M.D., F.A.C.S., Professor of Gynecology at Harvard Medical School; Surgeon-in-Chief to the Free Hospital for Women, Brookline; Consulting Physician to the Boston Lying-in Hospital. With 303 half-tone and pen drawings by the author, and 122 microscopic drawings by Margaret Concree and Ruth Huestis, with 66 of the illustrations in colors. Published by W. B. Saunders Company, Philadelphia and London, 1916. Sole Canadian agents, The J. F. Hartz Co., Limited, Toronto.

In presenting this volume of 770 pages, Dr. Graves has detailed it in three parts, respectively: With the physiology of the pelvic organs and the relationship of gynecology to the general organism; the description of those diseases which are essentially gynecologic, and finally the technic of gynecologic surgery, as well as operations on the abdominal wall, kidney, uterus, bladder, rectum, and for varicose veins of the legs. The author's remarks in Part I on the relationship of gynecology to the organs of internal secretion, as well as to that of the skin, mammary gland, blood, heart and blood vessels, digestive and nervous systems, etc., are well portrayed and form very instructive reading.

The chapter on gonorrhea is exceptionally good. The microscopic plates of inflamed structures and of new growths are interesting as well as instructive, and afford an excellent understanding of the changes from the normal without the necessity of reverting to books on pathology. Part III covers the entire field of operative work, giving adequate description of the technic in operation. After a thoughtful study of this book, one will feel that both time and money were well spent. It is a valuable library book for ready reference, as well as a standard for the undergraduate.

115

The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. XL. TORONTO, OCTOBER, 1916 No. 4

Editorials

PHYSICIANS AND THE ONTARIO TEMPERANCE ACT

THE great wave of abstinence that has swept across Europe recently is undoubtedly accountable for the splendid fighting trim of the valiant soldiers of the *Entente*, and all loyal Canadians, at home or abroad, are in heartfelt sympathy with the action of the Government in declaring the Province stone-dry on September 16th. Two years ago, had one prophesied a great war, and out of its horrible entrails the birth of a magnificent era of sane living, family joy and progress in scientific attainment through abstinence from alcoholic liquors, he would have been derided as a dreamer of dreams. Yet, none the less, the man who has had his ear to the ground of late, has known that something was going to happen soon in the business world among employers and employees on the subject of inefficiency through alco-

holism. Any world movement that reaches thus the man in the street has either been aided by the co-operation of the medical world, or hindered by its indifference or hostility.

On the medical practitioner in every community, no matter how rural or simple, is laid the heaviest responsibility of its moral, mental and physical health. He has, without exception, the best opportunities to judge of man's inner life. He has recognized, in recent years, that all habits, such as late hours, over-eating, inactivity, or gambling, control men's and women's health and efficiency, telling for evil in the lives of their children. He knows full well that alcoholism, whether treating or solitary drunkenness, dulls the perceptions and the moral sense, making the tippler and drunkard unsafe, nay, dangerous colleagues in any scientific, engineering or business venture. He, most of all, has studied the deleterious effects of alcoholism, chemically speaking, on the anatomy, and he must often wish that some of his autopsies, after an ignominious death, could be made a powerful object-lesson for the young. With his hand always on the pulse of the people, he wins their confidence, and can easily control their decisions in any matter, whether educational, moral or physical. We all know there is no class of men over whom so many hot battles are waged by the families of any town as over the physicians, whether it is due to their personal magnetism, sane judgment, or practical and professional success.

Of late, most movements in social reform have begun and ended with the physicians acting as the first promoters and the final councillors, because everything depends primarily for its efficiency, on sound living, toward which he is the guide. People willingly follow the lead of the man who sees them through the most trying moments in their lives, who goes without sleep, vacation, or food, to be present when they need him, or who, as in the present awful war, exposes himself to all the violence of shot and shell to render first aid to their sons or fathers.

Noblesse oblige. If the heavy burden of example has thus been so naturally laid on the shoulders of these busy men, *let us hope that they will unitedly stand shoulder to shoulder with the Government*, which is the People, whose love and confidence are reposed in them, and put this thing through in a thorough and satisfying manner, to save the Province before it stumbles into the pitfall it has already digged for itself in an annual disbursement of millions of dollars for drink.

We note with great pleasure that the Ontario College of Physicians and Surgeons unanimously upheld the action of the Government in passing this Bill, and *we feel strongly impelled to urge every physician in the Province to fall into line, not negatively or with diffidence, but by active example and propaganda.* Private physicians know very well what disasters arise in a community through the weakness of any one of their colleagues for alcoholics.

They secretly regard him as foolish, when he should know better. It is the right of every layman to be taught or to have his children taught as much. All great bodies like the Red Cross teach vigorously the elimination of alcoholics as a stopgap in emergency. The poor excuse for the spread of venereal disease is the first use of alcohol. All houses of ill-fame use drink as an absolutely necessary preliminary to drug or kill the finer senses. The man who might himself drink would not allow his wife or daughter to drink in public, especially without his escort. If, then, in so many cases the physician knows there will be horrible sequelæ, he can now cheerfully and courageously, having the sanction of a benign Government, speak plainly to all his *clientele.*

Everyone will say "the liquor traffic should be controlled," but many of us would like the listener to infer that *we* know when to use alcohol, or when not. Medical practitioners here have an excellent chance to show the high plane on which they live and think. They themselves being willing to obey the law where it steps in and controls their private affairs, will certainly not connive at any breach of it for their fellow-citizens. It would be preposterous to believe that any physician would, for the sake of a miserable fee, smother his conscience so far as to *prescribe* alcohol for a tippler. We cannot imagine that any physician who has had the advantages of education and companionship with right-thinking people would intensify the weakness and criminal

tendencies of a so-called patient desiring drink, any more than he would take a pistol from the desk drawer and say, " You cannot leave this office. Shoot yourself." A prescription including alcohol, even in the smallest amounts, should never be given without a positive diagnosis of some honest lesion and an exhaustive history of the case. But it is a plague like infantile paralysis, whose deadly insidious sequelæ are so far-reaching that the Law must step in to prevent its growth. Many methods have been tried, as signals, on the way to the great discovery, and we may only as late as now say, " Eureka! we have found it!" In infant feedings, one school of doctors tried at first to combat mortality from intestinal disease by reducing the percentage of proteids, with only a measure of success that was due partly to the cases being actually observed. Again, the reduction of fats was tried out, and now it is the sugars, one being abandoned for the other in those things that act on the stomach. Why not be willing then, as professional medical men, to give a fair and generous trial to this system to abort the evils of a drug that ruins both body and soul?

Conditions in England somewhat resemble those of a hospital, into which are brought only advanced cases of long standing. Without discussing the noticeable degeneration in physique among the poorer English classes, in teeth, lungs, and general stamina, almost entirely due to alcoholic beverages being con-

stantly used by men, women and children, on the false pretext of the demands of a dull, dispiriting climate, a poor argument since the millions spent on liquor, if diverted towards the purchase of sensible foods, would soon restore what is lost, the *partial* anti-prohibition measures resorted to by the home Government are really highly commendable, since they exactly resemble the case of a man in a hospital, with a broken leg, from whom whisky cannot be entirely withdrawn all at once lest he develop "d.t.'s." But we, in a young and glorious country, must not consider our case parallel to England's.

Each physician has an imperative duty, again, through the wide influence of his example, in showing economy equally as sincere in other things as in his personal appetites, lest it be said of him, "Oh, well, he may not drink, but he does thus and so." The need of the country is pressing and urgent, and it will grow more urgent in the period of reaction after the war has happily ended. One cannot overeat, dress luxuriously, nor over-indulge in any sport or taste that can be denied without injury to one's faculties. Let all the energy lost by *making* and *consuming any useless* or *harmful* thing be devoted to the manufacture of munitions to clear away the horrible incubus that has paralyzed our healthy industries.

Let every man by spoken vow and silent act show, on and after September 16th, that he has determined to lift himself to the high plane of selfless devotion

to this cause for the sake of Canada, to disregard politics, petty gain, personal friendships (that are not true, if not founded on a common interest in the public weal) or fear of reproach, and to do his duty according to the light of his conscience as God will be his Judge on the latter day.

How pathetic it is, what a reflection, though a painfully necessary one, on the good sense of any true citizen, to see how conscientiously the skilled jurists who worded this Act have tried to meet the trickery and chicanery that has always arisen in the liquor party to evade the new law? Can it not be hoped that the manufacturers of this death-dealing stuff will stop it and establish some new and honest industry, in a sane, and ashamed mood?

No human brain or aggregation of brains can devise and perfectly frame in suitable sections, clauses and words a tremendously sweeping Bill of this sort, however, without leaving some one thing out, or expressing some one phrase that may leave a slight smart, especially when it must include all classes. It is greatly to be regretted that in appearance the medical practitioner has been grouped in this Act with those who hand liquor out over a counter, but no physician will feel that it is more than a slip of the tongue, and he can graciously afford to overlook it if he lives on the high plane for which his special social and educational opportunities have fitted him.

It is to be assumed that the alcohol required for laboratory or mechanical purposes will be sufficiently denatured to render it absolutely unfit for drinking, and that it will be subjected to rigid inspection by the persons bonded for the maintenance of the law, so that the amounts used and registered will tally with the amounts bought. In this the churches will, of course, most willingly take the lead, especially since wine is not partaken of by some communicants at all, and in other instances unfermented wine is quite satisfactory. When in a hospital, the President of the Board of Governors assumes his responsibilities, one of them should be to sign a bond for a large sum ($5,000 at least) requiring him to see that the alcohol purchased is not used for any illicit purpose. The physicians and surgeons, it may be hoped, will take an active critical interest, also, in the distribution of this alcohol, in measuring, denaturing, testing, and inspecting accounts, while a tonic effect proceeds from the visits of Government inspectors, similar to those connected with the sale of narcotics.

Much can yet be done in the schools by pictures of all kinds to educate the youth in a sane, telling way. Many women drink perfume for the sake of its stimulating effect. A little strychnine or aconite in the manufacturers' formulæ would soon end that habit.

Over and above all expenses to the Government in maintaining inspectors, the balance of fines should

be devoted to prophylaxis and education. However, we are all surely agreed that imprisonment will prove to be the more effectual of the two punishments selected by the Government for violation of the Act, since it cannot be disposed of secretly. Money has never been successfully employed in any way to heal an immoral sore.

THE ACADEMY OF MEDICINE

DR. HERBERT BRUCE finds that he will have to be absent from Toronto for the entire winter, and on August 31st cabled his resignation as President of the Academy of Medicine. Vice-President Dr. John Ferguson called a special meeting of the Council of the Academy on September 6th, when he was duly elected President for the current Academy year. We bespeak for the new President the hearty support of the entire Fellowship, and feel that all have reason to look forward to an exceedingly successful and interesting winter's work. Dr. D. J. Gibb Wishart was unanimously elected Vice-President.

Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

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Original Contributions

THE DIRECT TRANSFUSION OF BLOOD: ITS VALUE IN HEMORRHAGE AND SHOCK IN THE TREATMENT OF THE WOUNDED IN WAR

BY LIEUT.-COL. A. PRIMROSE, M.B., C.M., EDIN., M.R.C.S., ENGLAND, AND MAJOR E. S. RYERSON, M.B., TORONTO.

No. 4 Canadian General Hospital, with the British Forces in Greece.

The direct transfusion of human blood from one individual to another is an operation of great antiquity, but in the history of medicine it has never been as extensively employed as it is to-day. From time to time transfusion of blood has been abandoned, largely because of technical difficulties in its performance, but of late years, as the result of the introduction of more perfect and less complex methods, the operation has become much more generally employed. Its value as a therapeutic measure in the treatment of many pathological conditions has in recent years been established on a scientific basis. Thus, it has proved of great service in the treatment of hemorrhage, shock, illuminating gas poisoning, and of more doubtful value in pernicious anemia and certain toxemias.

The writers will not review the observations which have been made, in recent medical literature, regarding the value of transfusion in the multitudinous conditions in which it has been used; we propose to restrict our observations to the value of direct transfusion of blood in the emergencies of military surgery. There may be some question as to its efficacy in many of the conditions in which it has been employed, but in hemorrhage and shock, more particularly in shock accompanied by hemorrhage, its value has been proved beyond a shadow of doubt. We may assert that we have no more efficient means at our command to save life in cases of severe hemorrhage

than by the direct transfusion of human blood from one individual to another. This has been proved not only in traumatic hemorrhage (primary and secondary), but in hemorrhage from such conditions as gastric ulcer, typhoid ulcer, ruptured extra-uterine pregnancies, the hemorrhages of the new-born and in hemophilia.

If we enquire into facts which are known regarding the effect of introducing human blood into the vascular system of an individual suffering from hemorrhage, we realize the difficulty and complexity of the problem involved in our effort to appreciate the full result of transfusion. As regards the transfused blood, we have no precise knowledge concerning the fate of the corpuscular elements nor of the plasma. The possibility of the harmful effect of lysins or agglutinins in the blood of the donor or recipient has been feared, but this has been greatly exaggerated. A large amount of clinical evidence has accumulated to warrant us in assuming that no serious harm is to be anticipated from such sources. The laboratory tests for hemolysis and agglutination may be carried out if time and facilities permit, but they are not necessary, and are by no means trustworthy. The laboratory findings in hemolysis, for example, have been found at times at variance with the actual results obtained in the living body. No fatal result has hitherto been reported from either hemolysis or agglutination.

The danger of the transmission of disease makes it essential we should enquire into the past record of the donor, particularly as to whether or not he has had syphilis.

The results of transfusion stand out prominently and are unquestionably of enormous value in the treatment of hemorrhage. These are, first, it increases the power of coagulation of the blood, and, second, it improves the local resistance of the tissues to infection. These facts have been recorded by a number of observers over a large series of cases, and have been shown in the most striking fashion in the cases of secondary hemorrhage which we have personally treated by transfusion. If we stopped there and claimed no more for transfusion, our contention in urging its employment in such cases would be justified. There are, however, other effects which are more difficult to analyse, and yet which we are warranted in believing

are of great service. If we introduce, say, a litre of blood with all its constituent elements into the vascular system of an individual suffering from the direct effects of a severe hemorrhage, and if we have reason to believe the transfused blood takes on its normal function in the recipient, the ideal therapeutic measure has obviously been employed. This is admittedly a very complex problem, and we acknowledge our ground is not as sure in the matter of conclusive evidence as it is regarding the effect upon the coagulability of the blood and the increased resistance to infection. If, however, we employ all known tests after transfusion and find no evidence of hemolysis we have strong ground for assuming that the donor's blood, in all its elements, circulates and functions in the recipient. If, for example, we find no evidence of hemoglobin in the urine, we certainly have no laking of the red cells in the circulating blood. The possibility of phagocytic destruction of red cells in the liver cannot so readily be disposed of, and we have no means of determining this factor. The blood count does not help us to any extent, because we find, for example, that if a litre of blood is transfused into a patient who is exsanguinated the blood count is not necessarily altered, in spite of the fact that the red cells are low in our patient at the time. Thus, recently a patient with a red count of 3,000,000, received a litre of blood from a donor with a red count of 5,000,000. Two hours subsequently the red cells in the recipient were still 3,000,000, but his color was markedly improved, and his blood pressure and pulse were maintained at normal. Obviously, the introduction of the more concentrated blood resulted in an osmosis which quickly restored the former equilibrium and resulted in a dilution of the mixed blood now circulating. There was no evidence of hemolysis, and the result of transfusion was to increase probably by one-third or more the amount of blood circulating in his vascular system. The result was vast improvement in his general condition, with cessation of hemorrhage and rapid healing of his wound.

Cases illustrating the beneficial effect of the direct transfusion of human blood in hemorrhage have come under the observation of each of us. Unfortunately, one's clinical notes of cases occurring at home are not available for the record of

complete details in this paper, but the main facts regarding two such may be cited. A lad, 16 years of age, had a deep cut inflicted by an axe, in the calf of the leg. The wound suppurated and secondary hemorrhage from the posterior tibial artery occurred. He was sent to hospital, and in the clinic the artery was tied high in the wound; hemorrhage recurring, the vessel was ligatured through a fresh incision at the lower end of the popliteal space. Subsequently the wound continued to suppurate, the pulse was rapid and thready, and he steadily lost ground. Direct transfusion of blood was undertaken, the lad's brother acted as donor, and by means of Crile's cannulæ the operation was performed and a considerable amount of blood was transfused. Towards the end of the operation the lad spontaneously expressed himself as feeling better, his pulse was no longer rapid, and the blood pressure improved. Subsequently the wound became healthy, no further hemorrhage occurred, and he made an uninterrupted recovery. Another instance in the clinic of one of us was the case of a girl exsanguinated by repeated hemorrhages from a gastric ulcer. Her physician considered her condition most critical, she was blanched and had a rapid pulse, low blood pressure and sighing respirations with restlessness. After transfusion she immediately improved, and made an uninterrupted recovery with no recurrence of hemorrhage. Several other instances might be quoted from our experience at home were our notes available. Two examples from our hospital in the field at Salonika may be noted in some detail.

The first is that of a corporal, *æt.* 42, who was admitted to No. 4 Canadian General Hospital on Dec. 17th, 1915. He had been knocked down by a motor lorry, the wheel passing over his left thigh and left arm. There was a compound comminuted fracture of the upper third of the femur and a compound fracture of the humerus above the insertion of the deltoid muscle. In both arm and thigh, torn muscle protruded from the wounds which were of a "bursting" character, and in the thigh on palpation the muscles seemed to be extensively torn away from their pelvic attachments. He had lost a great deal of blood and was in a condition of profound shock. The fractured limbs were secured on splints, with as efficient

reduction as his condition would permit. It was impossible to administer a general anesthetic. Morphia was administered to relieve his pain and combat shock. He rallied somewhat but remained for some days in a critical state in spite of the administration of normal saline solution. On Christmas day (one week after admission) his condition seemed desperate and it was determined to transfuse human blood. A donor was easily found and we transfused 815 cc. of blood. The patient expressed himself as feeling better; he said he felt "warm," his pallid lips became red and his condition of utter exhaustion gave place to one of comparative comfort. His pulse became slow, regular and full. During the next few days improvement in his general condition was maintained. Unfortunately the record of the blood picture before transfusion has been mislaid, but subsequently the record is as follows:

Dec. 26.	Hemoglobin 36 per cent.	R.B. cells 3,050,000.
Dec. 29.	Hemoglobin 40 per cent.	R.B. cells 3,700,000.
Jan. 20.	Hemoglobin 41 per cent.	R.B. cells 3,660,000.
Feb. 11.	Hemoglobin 58 per cent.	R.B. cells 4,460,000.

The urine was tested for hemoglobin for a few days after the transfusion with negative results.

This patient left hospital on a hospital ship in good condition; the fractures had united but a sinus still persisted in the thigh.

A second case treated by transfusion in the Canadian hospital at Salonika was one in which hemorrhage threatened to prove fatal. Pte. Haynes, *æt.* 47, had been operated upon by one of our colleagues for hemorrhoids. The operation performed was excision and ligature. On the third day after the operation a considerable hemorrhage took place, this recurred on the fourth day when under a general anesthetic the area of operation was examined and some additional sutures inserted, the wound looked sloughy and unhealthy. Normal saline solution was administered and the general condition improved and bleeding ceased. On the fifth day hemorrhage once more occurred and the patient's case became critical. He was blanched with rapid pulse, sighing respirations and exhibited restlessness. It was determined to transfuse him without delay, and he was

transferred to the operating tent for that purpose. The pulse was 150 and blood pressure 50. While waiting for the final preparation of instruments, etc., his condition became so bad that we feared he would die ere we started the operation. His pulse was hardly perceptible and very rapid. We transfused 1000 cc. of blood with excellent immediate results. The actual operation lasted 30 minutes, and when completed the patient had a pulse of 116 and a blood pressure of 96. The improvement was more than maintained. On the following day the pulse was 100 and blood pressure 110.

The clinical chart gives a detailed record of the pulse and blood pressure, not only before and after, but during the process of transfusion. It will be seen that the response was immediate.

A point worthy of note in this case is that not only did hemorrhage not recur but the wound, subsequent to transfusion, took on healthy action and healed readily. On the other hand while on a previous occasion the patient showed an immediate beneficial response to the action of normal saline solution, the hemorrhage recurred and the wound remained unhealthy.

Subsequent to the transfusion of human blood in these two cases, we tested the urine but found no hemoglobin. In neither case did we find any appreciable immediate increase in the red cell count. In the first case the record has already been given (*vide supra*), in the second case the red cells before transfusion were 3,000,000 with 50 per cent. hemoglobin, and three days subsequently the record was practically unaltered as it was also three hours after the operation. In both cases a normal blood picture was, however, slowly attained.

These cases sufficiently illustrate the beneficial effect of the direct transfusion of human blood. One may add that no harm resulted to the donors from the withdrawal of such seemingly large quantities of blood. They complained of little or no discomfort and were able to return to duty after a brief interval.

The apparatus used is very simple. The accompanying diagram illustrates it sufficiently well. A glass cannula is introduced into the median basilic vein and is attached to a 20 cc. glass syringe by an intervening piece of rubber tubing.

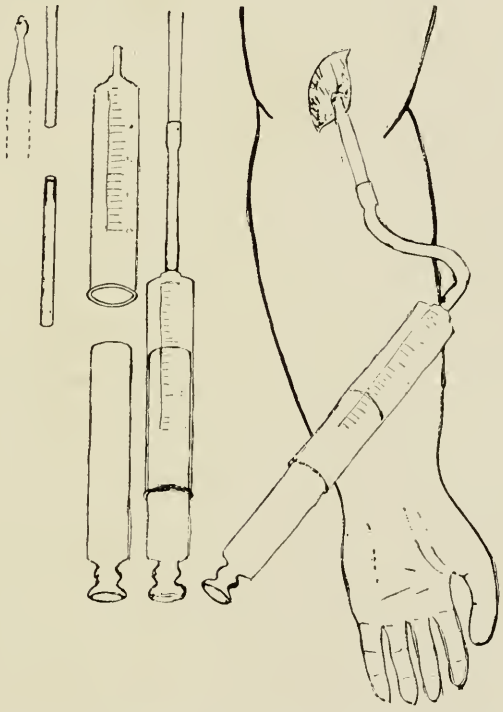


Diagram illustrating the apparatus used in transfusion and the method of inserting the canula in the vein with syringe and tube attached.

The glass cannula is placed in the proximal end of the divided vein of the recipient and in the distal end of the donor. One should have if possible 10 syringes. These are all sterilized by heat and are all coated internally with liquid paraffin. This is accomplished by first dipping the plunger of the syringe in the paraffin and then, after attaching the tube and cannula, the paraffin is drawn up through the whole apparatus and expelled. An essential part of the procedure is to prevent any stagnation in the flow through the cannula during the operation. This is accomplished by using normal saline solution as a substitute for blood where a syringeful of blood is not available. Thus, for some reason the assistant who is drawing off blood from the donor may encounter some momentary cause of delay; under such conditions the surgeon takes a syringe full of normal saline solution and by slowly pressing the piston of the syringe, keeps a current of fluid moving in the cannula of the recipient until such time as the syringe full of blood is available.

The uncoupling of the syringe is always made at its junction with the rubber tubing; pressure on the tubing between thumb and finger is sufficient to control the flow during the process.

A current of blood or normal saline solution is constantly kept up. The amount of normal saline solution thus introduced is negligible as it is introduced very slowly. Conditions may arise where there is some delay which necessitates the similar use of normal saline solution in the case of the donor. Here, too, the current of flow must be constant. Another point of some importance which one learns by experience is that after about 500 cc. has been transfused it is advisable to employ syringes newly coated with paraffin, otherwise there is a tendency to clot. The operation may be carried out very rapidly, and in our experience, without difficulty. One great advantage over any method in which the donor and recipient are buckled together by cannulæ, is that both individuals are free to move about and are able to alter their position or take a drink, etc., without interfering with the operation. Those who have tried both methods will realize the tremendous advantage in this, particularly if the recipient is very ill.

The apparatus we have described is not new. The principle of the syringe and cannula method was first brought to our attention by Captain L. Bruce Robertson, one of our colleagues in Toronto at the Hospital for Sick Children there. He had employed it in a considerable number of instances with most gratifying results in such cases as "hemorrhage in the newly born" and in hemophilia. Captain Robertson in turn obtained the idea from one of the New York clinics; unfortunately we are unable to obtain the literature which would enable us to place the credit where it is due.

The advantage of the direct transfusion of human blood in the cases of severe hemorrhage we encounter in the emergencies of military surgery cannot, to our minds, be overestimated. In cases of secondary hemorrhage with sloughy wounds it is the ideal treatment, and has great advantages over normal saline solution; we know the latter diminishes the coagulability of the blood and the former increases it. Further, the transfusion of human blood reacts locally upon the wound and induces healthy reaction there. Lastly, we have reason to believe that all the elements of transfused blood function in the recipient. If such be the case, it is undoubtedly the ideal therapeutic measure in hemorrhage, and in cases where there is shock plus hemorrhage.

Recent articles show that hemorrhage is one of the main causes of the fatal issue in bullet wounds of the abdomen—most writers, indeed, placing it as the chief cause of death. If such cases live long enough to reach the operating table their chances of recovery would undoubtedly be vastly improved if transfusion of human blood were undertaken either while the operative procedure were in progress or immediately afterwards. The symptoms due to hemorrhage and shock will be lessened and immediate beneficial results will be obtained.

Our former colleague, Capt. L. Bruce Robertson, has successfully demonstrated the value of the treatment in Northern France, where he has employed it in No. 2 Canadian Casualty Clearing Hospital. Unfortunately we cannot give details of his cases, but in private correspondence he asserts that the results obtained have been most gratifying. The apparatus is

simple and could well be employed in hospital units near the front. Capt. Robertson was prepared to carry it out in a field ambulance unit if necessary.

Note.—Since preparing the above paper for the press, we learn that Capt. Robertson has published the details of four cases successfully treated in France in an article, entitled "The Transfusion of Whole Blood" in the *British Medical Journal,* July 8th, 1916.

INTUSSUSCEPTION *

CLARENCE L. STARR, M.B., TORONTO.

Intestinal obstruction in a child under one year of age means in nearly all instances an intussusception. About 60 per cent. of all cases of intussusception admitted into any large clinic, such as the Children's Hospital, die. This mortality could be easily cut in half with the careful co-operation of the practitioners who see these cases at the commencement of the illness.

The average time of admission of all the cases of this sort during the past 15 years has been 57 hours, nearly two and one-half days after the onset of the trouble.

The easiest time to diagnose a case of intussusception is during the first 24 hours.

Once a diagnosis is made, no other treatment should be attempted before submitting patient for operation, as it has been definitely shown that no other method of treatment is of any avail.

The rather startling facts revealed by a record of the histories of these cases during a period covering the past 15 years is the basis for the conclusions drawn in this paper.

The cases number 46, with 31 deaths and 15 recoveries. The earliest case admitted was three hours after onset of symptoms, and the rest varied up to eight days. The average time

*Read at The Ontario Medical Association, Toronto, June 1916.

of admission of the entire series was 57 hours, or nearly 2½ days after onset of symptoms.

The average admission time of the fatal cases was 74 hours, or a little over three days, and of the recovered cases 32 hours, or less than 1½ days after onset.

Etiology.

This condition comes on in apparently healthy children. In our series 30 were males and 16 females, but there seems no reason why one should be attacked more frequently than the other. The statistics of other clinics, however, show this same frequency in males, and there may be some difference in the greater laxity of the mesentery in males. In no case which came to autopsy or where the operation would disclose the fact, was there any sign of polypus growth or foreign body. It seems reasonable to assume that these might be the causal factor, but, as a matter of fact, they are rarely found.

In most of our cases there was a history of intestinal disturbance, either marked constipation or diarrhea. These conditions, producing a congestion of a normally lax mucous membrane, may easily be the starting point of an invagination, which by the increased vermicular action of the wall readily becomes increased.

In support of the theory that intestinal congestion, especially in the region of the lower ileum where the Peyer's patches lend themselves to such congestion, is a large factor in the etiology is the fact that three-fourths of all the cases occurred in the summer months, when intestinal infections are most frequent.

Pathology.

The intussusception in the great majority of cases occurs at the ileocecal region. The large size of the colon, together with the greater degree of congestion from the swollen Peyer's patches and the great looseness of the mesentery and mesocolon, favors the possibility of telescoping in this region.

The mucous surface invaginates itself through the ileocecal valve, and then the active peristalsis carries this knuckle on into the ascending colon.

The ensheathing layer remains comparatively unchanged, even in the late stages, but this with the entering and returning layers form a mass which is the characteristic sausage-shaped tumor so often found.

The mass is enlarged by congestion and edema as the case progresses. Between the entering and returning layers the mesentery is carried in, and as the intussusception advances the mesentery becomes more and more stretched and causes the intussuscepted mass to curve on itself, with the concavity toward the spine. As a result of the stretching and pressure on the vessels of the mesentery, the circulation to the intussusception is gradually impaired. First the venous return is obstructed and engorgement and swelling take place, an exudate forms which tends to agglutinate the surfaces between the entering and returning layers. Blood and mucus is poured out into the canal, and this is later passed by the anus, constituting the stools so characteristic of this affection.

As early as the end of twenty-four hours, so much congestion and agglutination may take place as to make it impossible to separate the entering and returning layers, and the mass becomes irreducible.

The longer this condition persists, the less is the prospect of reducing the invagination.

If the process continues, the arterial circulation is gradually cut off, and the intussusception becomes gangrenous, the part becomes invaded with bacterial organisms and a peritonitis ensues.

In some cases the intussusception has been known to slough off and pass by the anus, and the continuity of the canal be thus re-established. This must be exceedingly rare and has not yet happened in any of our cases, although a number of them have not been admitted until the seventh or eighth day of illness.

Symptoms.

The sudden onset of acute symptoms in a child previously quite healthy is characteristic. The first clinical symptom is intense pain of a colicky nature, accompanied by signs of shock —sometimes amounting almost to collapse—pallor, cold, clammy skin, small thready pulse, with pinched features. Vomiting

starts at once, and is frequently repeated, but even in the late stage rarely becomes fecal. These are soon followed by one, or even two, normal stools and within a couple of hours, during which time the pain has continued, accompanied by persistent straining or tenesmus, small frequent passages of blood-stained mucus take place. At this stage a tumor can usually be felt by palpation in the region of the hepatic flexure of the colon.

If the case is left, the other signs of intestinal obstruction follow, viz., gradually increasing distention and toxemia. By the end of 48 hours the symptoms begin to be covered up by the increasing distension and toxemia. The tumor may be masked by the fullness of the abdomen, and is no longer palpable. In some instances the apex of the intussusception may have progressed so far on its vermicular way to the anus that it can be felt by the finger in a rectal examination, and this should never be omitted in any suspected case.

The increasing toxemia also dulls the sensibility of the child to pain, and this symptom largely disappears. The active straining or tenesmus gives way to a repeated series of grunts, not unlike the respiratory grunt of a case with pneumonia, and the patient becomes somnolent and apathetic.

Diagnosis.

In a child under two years of age, the intensely acute onset, with pain, vomiting, collapse, one or two fecal stools, followed by straining and passage of blood and mucus, and possibly a palpable tumor, are characteristically diagnostic signs.

An acute appendix will not give the bloody stools or tenesmus, and any mass which forms will usually be later and found in the right iliac region, whereas in the tumor of intussusception, this region is palpably empty and the mass is up toward the liver or across the abdomen above the umbilicus.

In ileo-colitis the symptoms are more gradual in onset, and even if there is diarrhea with blood-stained mucus stools, there is always some fecal content and always bile present, whereas in intussusception no bile or bowel content passes after the first one or two stools.

With reasonable care the diagnosis can always be made within the first twelve hours, and with difficulty can it be made in the late stages, as the signs are gradually covered up.

Treatment.

Hitherto much valuable time has been wasted in attempting methods of treatment which obviously, from the nature of the condition, will be unavailing.

It may be said in a general way that with every hour which elapses the chances of the child's recovery are to that extent lessened; and the object of this paper is largely to impress the writer's conviction that a correct diagnosis should be made at the earliest possible moment, and at that time the child submitted for operative treatment.

If the patient is seen immediately after the acute onset of the illness, there is no reason why an effort should not be made to disengage the telescoping portion of the intestine. It must be recognized, however, that this is only possible before any congestion and consequent edema of the intussusceptum has taken place.

The writer has in mind one distinct case where the child was sent in within an hour of the onset of symptoms, and there was a very definite mass palpable above the right iliac region. Under the palpating finger, while attempting to demonstrate it to a class of students, the tumor suddenly disappeared and the other symptoms subsided. This same child came in later, and similar palliative methods were tried, but without avail. The child was sent to the operating room, and under an anesthetic the tumor again disappeared by manipulation. So far, there has not been a recurrence of the condition. This must be a very exceptional case, but it demonstrates that within the first two or three hours after the onset of the illness it may be possible to undo the telescoping.

The methods usually suggested are: First, the inverting of the child, raising the hips high and almost standing the child on its head; second, the injections, per rectum, of water or salines. The old method of injecting metallic mercury is hardly to be advocated. In the same way the distension of the bowel with gas or air may be exceedingly dangerous. Again, I would like to emphasize that it is only within the first few hours that these methods should be attempted. When one has seen a number of these cases, it is apparent how readily the bowel can be perforated by any of these methods if adopted at other than the early stage.

If the patient presents itself within the first twenty-four hours, and in some instances at the end of the second twenty-four hours, it is usually possible to reduce the intussusception. An incision amply long to admit the whole hand should be made in the right rectus about the level of the umbilicus. After opening the peritoneum, the abdomen is readily explored and the mass located, usually in the right hypochondriac region. This mass, if possible, is brought out on to the surface of the abdomen without removing the rest of the intestines from the abdomen.

The reduction must be made with the utmost care, and should, for the most part, be squeezed back from above. Very little traction can be made on the entering bowel without the danger of tearing. Once the reduction is started, it is rapidly undone back to the last inch or two, and this must be patiently manipulated until it is completely straightened out.

The thickening of the wall from congestion and edema is usually sufficient to prevent recurrence of the condition, and it is rarely, if ever, necessary to stitch the bowel to the abdominal wall.

In case of failure to reduce the intussusception, the only thing that remains is to do a rapid re-section of the invaginated mass, and either bring the ends out of the abdominal wall, thus establishing an artificial anus, or close the ends and do a lateral anastamosis.

In the writer's opinion, the only re-section which offers hope of success is the one in which the ensheathing layer is stitched to the entering layer by a serous to serous suture, and then a longitudinal slit made through the ensheathing layer beyond this, the intussusceptum withdrawn through this opening and cut across close to the point where it turns in. A through to through suture may be put through all of these walls to strengthen the primary suture, and the longitudinal opening in the ensheathing layer closed by an ordinary Lembert suture. This must be rapidly done—and the time element is a very important one in the success of the operation.

Even in these cases, the patients frequently die of toxemia, unless some method can be devised of emptying the small bowel above the telescoped portion.

If the patient's condition is very bad, it may be better to remove the mass by a rapid re-section between intestinal clamps, and then bring both ends out on the wall by means of a Paul tube.

The mortality of re-section in these cases is extremely high, and every case in our series of this character ultimately died.

My thanks are due to Dr. E. A. McCowan, of the interne staff of the Hospital for Sick Children, for the details of the statistics from the hospital histories of the past fifteen years.

TORONTO'S NEW MILITARY HOSPITAL

Dr. W. B. Thistle has been appointed Chief of the Medical Service at the Military Hospital in the Old Toronto General Hospital Buildings. Dr. Thistle has been given the rank of Major; Dr. C. B. Shuttleworth has been given the Surgical Service, also with the rank of Major; Capt. Dr. Goldwin Howland is in charge of the Department of Nervous Diseases; Dr. Gordon Bates, Dr. Colin Campbell, Dr. Archie Campbell, Dr. Treble and Dr. Fleming (of the Board of Health) have been also placed upon the staff with the rank of Captain.

SERVICE TO THE OCULIST

In every large City there is to be found one or two Opticians who devote their entire time and ability to the expert filling of Oculists' Prescriptions. These Opticians work in harmony with the profession and so direct their efforts as to instil in the minds of the wearers of glasses the vital importance of engaging only the services of a reliable Oculist. No attempt whatever is made to advise or prescribe glasses except on the advice of a Medical Practitioner.

A high-class and thoroughly reliable establishment of this nature was opened a few months ago at 154 Yonge St., by J. C. Williams, who has conducted a most successful refraction business in Toronto for the past ten years. He has discontinued the refracting end of the business and is filling prescriptions exclusively. We venture to predict for him the sincere support of the Medical Profession and the success such an undertaking deserves. With existing conditions in Toronto this service should prove an acquisition to the practice of the Oculist.

Militia and Naval Medical Services and Ambulance

The following Medical Officers of the rank of Lieutenant-Colonel were promoted a few weeks ago to full Colonelcy: H. S. Birkett, J. A. Roberts, A. E. Ross, C.M.G., C. A. Hodgetts, M. MacLaren and George Acheson.

Lt.-Col. (Dr.) Alexander Primrose is now back in Toronto, and expects to remain in the city during the current winter. The Doctor spent the last few weeks of August at Gordon Bay, Muskoka.

Professor B. P. Watson and Professor J. J. McKenzie have returned to Toronto from Saloniki, and expect to give special attention to their university work for the next few months.

Dr. Vincent Plews, an old Cobourg boy, who has been practising for the last year at Blenheim and the Mohawk Reserve, has signed up with the Royal Army Medical Corps, and expects to go overseas with the rank of Lieutenant. He is a graduate of Queen's University.

Colonel Marlow, Assistant Director of Medical Services, was promoted a few weeks ago to the post of Chief Medical Inspector of the Canadian Expeditionary Forces in Canada. We tender our congratulations.

Major (Dr.) Perry G. Goldsmith, who was until recently attached to the Canadian Eye and Ear Hospital at Folkestone, has been transferred to the Military Hospital, Bramshott, Hants, in order to do special work. He, however, expects to be back at Taplow again ere long.

Coroner Dr. C. C. Fissette, of Brantford, has received an appointment in the Royal Army Medical Corps, and leaves shortly to take an appointment at a Base Hospital.

Dr. Ryan, of Kingston, recently returned from the front on a two months' furlough. Dr. Ryan went over to England with the Ontario Base Hospital a few months ago, and expects to take up his work at Orpington again about November 1st.

Lt.-Col. (Dr.) D. C. McKenzie, Commanding Officer of the 141st Battalion, was recently relieved of office. No reason was given. All the other officers immediately resigned to testify their sympathy. Dr. McKenzie lives at Fort Frances and had a large medical practice throughout that district. He recently spent thousands of dollars organizing the regiment known as the "Bull Moose Battalion."

Captains (Drs.) M. C. Brown, C. C. Richardson, W. J. McLean, and L. J. Houghton were transferred a few weeks ago for duty at the Convalescent Hospital, Epsom. Dr. R. A. Kennedy has been given a commission in the Medicals with the temporary rank of captain, and will be stationed at the Training School, Shorncliffe. Capt. Parker, of the Machine Gun Battery, was recently transferred to the Training School at Shorncliffe.

Herbert A. Bruce, F.R.C.S., has been made a full Colonel in the Canadian Army Medical Corps, and attached to General Carson's Headquarters Staff in London, having received a commission to inspect all the Canadian hospitals and medical institutions to which the Canadian Government is contributing, and to report upon their work and any recommendations in regard to the same. He will inspect the hospitals in the London area first, and then elsewhere in England, afterwards going to France to inspect the various base and stationary hospitals, casualty clearing stations and field ambulances situated there, and as there are three Canadian hospitals in Salonika, he will probably visit them afterwards.

MAJOR (DR.) J. L. TODD, OF MONTREAL, APPOINTED TO NEW PENSION BOARD

One of the three members of the new Pension Board, recently appointed, was Major (Dr.) John L. Todd, of Montreal. Dr. Todd has had a distinguished career. He was born at Victoria, B.C., and graduated at McGill University, specializing in Parasitology, and afterwards lectured in Liverpool University. When war broke out, he immediately went to the front, and while there studied the French method of handling wounded men and training disabled soldiers for vocations. He was brought back to Canada to assist the Dominion Hospitals Commission.

SCHOOL OF INSTRUCTION FOR CANADIAN ARMY MEDICAL CORPS OFFICERS

The School of Instruction for Canadian Army Medical Corps Officers, opened at Camp Borden on September 5th, Capt. (Dr.) V. McWilliams, of the Camp Hospital, has quite a number of officers already taking the lectures. At the University of Toronto, where Capt. McLean is in charge, there are nearly one hundred accepted applicants. This course is open to all officers appointed C.A.M.C. Units, officers provisionally appointed or whose appointment has been recognized, and also to the members of this year's graduating class in medicine at the University of Toronto. The Canadian Army Medical Corps now doing service overseas is in need of still more officers to enable it to cope with its rapidly-increasing work. A call for volunteers was recently issued, and it is understood that until the required number of medical practitioners have been secured, no further drafts will be permitted to join the ranks of the Royal Army Medical Corps.

Obituary

DEATH OF DR. H. G. MACKID, CALGARY

Dr. Harry Goodsir Mackid, of Mackid & McLaren, Calgary, one of the best-known physicians in the West, died suddenly on August 17th at Calgary. He formerly was President of the Dominion Medical Association, and has been Coroner for Alberta, Chief Surgeon for the C.P.R. Alberta division, and has been connected with most of the principal Medical Associations in Canada. Dr. Mackid served with the Queen's Own Rifles in Toronto from 1876 to 1879.

DEATH OF DR. GILBERT TWEEDIE

After a long illness, Dr. Gilbert Tweedie died at his residence 53 Langley Avenue, Toronto, on August 23rd. His illness was the outcome of a bad fall from a street car last March. Dr. Tweedie was born in Dumfriesshire in 1828, and attended Edinburgh University, coming to this country when twenty-one. He entered Knox College and graduated from there. Throat trouble forced him to discontinue his work, and in 1860 he entered Victoria College and took his degree as a medical proctor. In 1891 he returned to Toronto from Victoria County and subsequently was appointed Medical Superintendent of the Isolation Hospital, which position he held for seventeen years.

DEATH OF PROFESSOR T. G. BRODIE

Prof. Thomas Gregor Brodie died suddenly in London, Eng., on August 20th. Prof. Brodie is well known in Toronto, having been associated with Prof. A. B. Macallum in the Department of Physiology of the University of Toronto since 1908.

He was born in Northampton, Eng., in 1866 and studied arts at the University of Cambridge. He afterwards studied medicine in London, receiving first his degree of M.B. and afterwards of M.D., taking a high standing in the examinations. He served two years as a house physician and surgeon in London before entering the teaching profession. His first appointment was as the director of the Research Laboratory of the Royal College of Physicians and Surgeons, before it was merged into the Lister Institute. He afterwards held several distinguished positions, some of the most notable being lecturer on physiology, St. Thomas Hospital Medical School, 1895, and lecturer on physiology London School of Medicine for Women, 1889 to 1907. He was essentially a research man and his achievements in this line made him one of the foremost of living physiologists. It is doubtful if the University of Toronto, when they appointed him to the chair of physiology, could have found a more illustrious exponent of physiology. He loved his work and was always exploiting new lines of developing his subject. His laboratory in the University of Toronto is quite the most completely equipped that exists. He would, of course, have made a distinguished career in other lines than physiology had he chosen one of these, engineering, for example. Indeed at one time in his career there was a possibility of his selecting that profession.

He was very keen on all questions of medical education, and his experience amongst the schools of England and Scotland qualified him to speak as an expert on this topic. There was a possibility, had he lived, of his occupying an English university chair, so highly was he thought of in connection with his work. He was a kindly colleague, an indefatigable worker, and one of the most distinguished members of the staff of the University of Toronto.

At the time of his death Prof. Brodie was serving as a captain in the Canadian Army Medical Corps and was attached to No. 4 Canadian General Hospital. His stay in England was to be only temporary, and he expected to return home the latter part of September. One of Prof. Brodie's two sons is a despatch rider on the French front and the other is a midshipman on H.M.S. Talbot.

THE LATE DR. J. B. MURPHY

John Benjamin Murphy, M.D., was born in Appleton, Wis., December 21st, 1857, died at Makinac Island, Mich., August 11th, 1916.

He graduated from Rush Medical College in 1879, served an interneship in Cook County Hospital, and in 1882 went abroad to study for two years. His career as a medical teacher began in 1884, when he was appointed lecturer in surgery in Rush Medical College. Eight years later he became professor of clinical surgery in the College of Physicians and Surgeons, Chicago, until 1901, when he was elected professor of surgery in Northwestern University Medical School, which position he held until his death. He was appointed chief of the surgical staff of Mercy Hospital in 1895, as well as being on the staff of Alexian Brothers' Hospital, Cook County Hospital, St. Joseph's and Columbus Memorial Hospitals and the Hospital for Crippled Children, Chicago.

He was president of the American Medical Association in 1910, and also held office as the president of the Clinical Congress of Surgeons of North America and of the Chicago Medical Society, besides being a member of many scientific bodies, both in America and Europe.

He contributed a very great deal to surgical literature, his first work appearing in 1892. The first issue of the Murphy's Clinics appeared in 1912, which reported his operations and lectures at Mercy Hospital.

Notre Dame University conferred on Dr. Murphy the Laetare Medal in 1902. The degree of LL.D. was conferred upon him by the University of Illinois and by the Catholic University of America. In June of this year the Pope made him a knight commander of the Order of St. Gregory the Great.

Having been in poor health for several months on account of aortitis, his death was not unexpected. In Dr. Murphy's death the medical profession lost one of the ablest surgical teachers and a clinician of the highest rank, one who had contributed much to medical and surgical science, one whose influence was world wide.—*Exchange.*

AN IDEAL RESORT FOR CONVALESCENT PATIENTS

PHYSICIANS have frequent opportunities of referring those convalescing from illness to a resort where they can quickly recover their old-time vigor and enjoy an almost ideal climate, 2,500 feet above sea level. Such a resort is Virginia Hot Springs, just one night out of New York. The management have spent a huge sum of money on this choice spot in "Old Virginny," and are anxious that the Canadian medical profession should continue to refer cases there, as they have done in years gone by. The Homestead Hotel is one of the handsomest houses in America. It is built of solid brick, containing 500 guest rooms, with many parlor suites and 300 private baths. It is spacious, dignified, quiet and restful, with magnificent mountain views on every side. It is no exaggeration to say that Hot Springs means the Homestead Hotel. The Company owns 5,000 acres surrounding the hotel, so that physicians can understand that their patients have every opportunity of enjoying outdoor life and regaining thereby their normal strength.

The dominant factor making Hot Springs world-famous is the cure in which the climate as well as the water assist. The waters are conducted by gravity to the bathhouse and distributed fresh from the ground to the bathing apartments on different floors without loss of heat or its increase by artificial means, and fully charged with all their gases and other health-giving qualities. At none of the celebrated places in Europe, and at no other springs in America, is the temperature prescribed for hot baths that at which the water actually emerges from the earth in the natural springs.

The springs are beneficial, not only for bathing, but for drinking. Besides the hot springs, the effects of which as drinking waters are pronounced, there are magnesia, sulphur, and soda springs within the grounds, and alum water from a spring not far distant. The water from the soda spring comes strong and clear from the ground at a uniform temperature of 74 degrees. Physicians should address for full information H. Albert, Esq., Hot Springs, Va., U.S

The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. XL. TORONTO, NOVEMBER, 1916 No. 5

Editorials

FROM DEATH INTO LIFE

AMONG the innumerable host of Canadians who have made the Supreme Sacrifice, or who are suffering from wounds received in this, the greatest war in the world's history, stand out prominently the names of the sons of medical men practising in this community. At the time of writing those who have recently answered the Call are:

Lieut. Archie W. Macdonald, a son of Dr. and Mrs. A. A. Macdonald, of Bedford Road. Lieut. Macdonald was an old member of the 10th Royal Grenadiers. He qualified for his commission as Lieutenant in "B" Company, 19th Battalion, 4th Brigade, and spent the winter of 1915 at the Exhibition Grounds, proceeding overseas with the Second Contingent in May, 1915. He was twenty-six years of age and was educated at Upper Canada College and the University of Toronto. He met his death

just one year after having left England, at which time he was in full command of his company.

Lieut. Maurice Irving Machell was the son of Dr. and Mrs. Machell, 216 St. Clair Avenue. Lieut. Machell had been in the trenches about three months when he met his death on September 15th. He went to England with the 19th Battalion and took his commission there in August, 1915. Lieut. Machell was well known in Toronto before he enlisted. He first attended Upper Canada College and later graduated from Trinity, where he was a popular and brilliant student.

Lieut. Thomas H. Sneath was a son of Dr. Charles R. Sneath, 385 Broadview Avenue. He was twenty-one years of age and held a commission with the 83rd Battalion, subsequent to which he was transferred to a Trench Mortar Battery. Lieut. Sneath was wounded on September 5th. He was a member of Coronatic Lodge A. F. and A. M., and the Delta Chi Fraternity.

Capt. Stewart McKeough was the nephew of Dr. McKeough, of Chatham. Capt. McKeough was a third year medical student at Toronto University, having enlisted with the 18th Battalion as a Lieutenant and won his promotion overseas. Capt. McKeough was twenty-three years of age. He was exceedingly popular in his home town, as also in Toronto and in the trenches.*

Among the wounded appears the name of Lieut.

* Since writing the above, we learn with deep regret that still another of Toronto's medical men has lost his son—we refer to Dr. R. B. Nevitt, and extend to him our deepest sympathy.

Sidney S. Burnham, who at present occupies a bed in one of the English hospitals, having been wounded in the left arm. Lieut. Burnham is a son of Dr. H. Burnham, 47 Warren Road. He received his wounds on September 12th. Lieut. Burnham was with " B " Company, 19th Battalion, Second Canadian Division, and enlisted for overseas service in September, 1914, just one month after war was declared. His brother, Capt. Howard Burnham, M.O., with the Second Brigade, Field Artillery, has been mentioned several times in despatches, once by General French. He enlisted in August, 1914, spent the most of the following winter on Salisbury Plain, and early in February, 1915, went to France. Still another member of the family is on active service, Miss Mary Burnham having been for many months engaged in caring for the wounded at the Canadian Convalescent Hospital for Officers in France.

Also the name of Lieut. Gordon Smith, a son of Capt. (Dr.) Harley Smith, who is on the Staff of the Ontario Base Hospital at Orpington, Kent, England. Lieut. Smith was recently severely wounded in the hand and his father went over to France and brought him back to London, where he might be under his own supervision. Lieut. Smith was connected with the Royal Horse Artillery. His brother was up till recently with the Flying Corps, but has since too, joined the Royal Horse Artillery.

Anxious enquiries have been answered most hopefully up to the present in both the cases of Lieut. Burnham and Lieut. Smith.

The deepest sympathy of all members of the medical profession goes out to the parents of those who have paid the price so gallantly, their sorrow can only be borne by the comforting thought of many happy memories of their sons' bright personality, and the knowledge of their unfailing courage in life's last battle.

Canadian boys are born brave, and in this conflict they have shown it to the world, and more, have written indelibly in the chronicles of the war for generations yet to come " to read as they run " that the same capital C that begins the word—Conquerors—takes its place proudly at the head of—Canadians.

THE HONOR ROLL OF THE UNIVERSITY OF TORONTO

THE Honor Roll of the University is now becoming exceedingly lengthy. So far the University has sent 3,041 of her boys to the Front, so that there is no doubt as to the part our National University has so far played in the World War. The 3,041 names include 95 members of the Staff, while the list of those who have already laid down their lives consists of 113 names. The Honor Roll in detail is as follows: Staff—officers, 86; ranks, 9. Graduates—officers, 1,368; ranks, 368. Undergraduates—officers, 557; ranks, 711. Y.M.C.A.—Graduates, 11; undergraduates, 13.

The names of the Graduates in Medicine of the University who have to date of writing paid the su-

preme sacrifice are: Allen Charles Mackenzie Cleghorn, William Laurance Evans, Paul Archibald Gillespie, George Clarence Gliddon, Dugald Black McLean, Edgar Harold McVicker, Herbert Stanley Monkman, Arthur William Tanner, Harold James Lang Yellowlees.

Contrasting Varsity's first war year with the present, Dr. Falconer recently said, "At that time far more men were listening to me than I have to-day. Most of those who came up then were light-hearted youths who did not realize what an awful decision lay before them. How different the environment to-day! These halls are lonely, even though you come as a new issue out of boyhood into youth to take the place of those who have gone." Referring to the gallant company who have paid the supreme sacrifice, the President said: "I cannot think that they have been blighted by the frosts of this world's fickle climate, but prefer to believe that a skilful Gardener has but removed them to richer soil and a more genial light."

September the twenty-fifth.

PHYSICIAN'S OFFICE AND WAITING ROOM TO LEASE

Any Medical Practitioner, desirous of securing one of the best locations in Toronto for general practice, should telephone "C. 908." The residence is one occupied for many years by a physician now on active service. The surgery, waiting-room and bedroom are furnished, and include service.

Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

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Original Contributions

THE DEFINITE TREATMENT OF PNEUMONIA *

With a Report of the Germicidal Power of Quinine and Other Cinchona Derivatives upon Pneumococcus Cultures in vitro

BY SOLOMON SOLIS COHEN, M.D.
Professor of Clinical Medicine in Jefferson Medical College, Philadelphia.

I. Clinical.

For generations quinine has had a traditional, empirical reputation as a potent agent in the treatment of lobar and lobular pneumonia and similar maladies. Systematic employment of the drug according to a definite plan, for a period of twelve years—thus during seasons of varying meteorology and epidemic virulence—has given abundant evidence of the correctness of this tradition.

In many of the cases so treated recovery would probably have been as certain without the drug as with it; but in no case did it prevent recovery, and in a large number it averted death. Some patients in the author's service do not receive it. As a rule, however, the initial dose is given on admission, and repetition is determined by circumstances. In those cases which give no indication for repetition of the dose, recovery is practically invariable. In the severe cases—those calling for repeated doses—mortality has been greatly reduced equally among alcoholics and derelicts, and the clinical picture is commonly changed from profound distress to comparative comfort, not only in cases of happy ending, but also in the fatal

*Read at The Ontario Medical Association, Toronto, June 1916.

ones. In other words, toxemia is overcome or minimized. Thus cough is not troublesome, delirium and insomnia are much less frequent, and respiration, even when rapid, is not labored in anything like the ordinary degree. Hence, the use of hypnotics, of sedatives and of oxygen is rarely called for. The best results are observed in patients seen not later than the third day of overt symptoms, and in those less than fifty years of age; but surprising recoveries are met with in late cases and old persons.

Two significant features of the clinical picture are to be emphasized: First, the common change from critical to gradual termination (lysis); second, the extreme rarity of cinchonism (two cases in 500), notwithstanding the enormous doses of quinine sometimes administered. Cinchonism, profuse sweating, or marked fall of blood-pressure following the use of quinine call for caution; perhaps for withdrawal of the drug. In no case of the author's has there been quinine amaurosis. One case of amaurosis has been reported to him by a pupil, but the trouble was transient, and the patient was saved from what seemed to be impending death.

The treatment to be outlined, however, is not specifically treatment by quinine. Quinine is used as the "big gun" in its tactics, but if a better gun is found, this could be substituted without changing the strategy of the method. It is termed the *definite treatment* of pneumonia, to distinguish it from the vagueness of expectancy on the one hand, and the exactitude of specific treatment on the other hand. It is not primarily, or chiefly germicidal. In pneumonia, after the first day, more is needed than merely to slay the microscopic Goths and Huns. We must protect the body against the poisons which they manufacture, or which may be manufactured by the enslaved or struggling tissues. We do not know as yet what the pneumonia poisons are. We merely observe their effects. The definite treatment is directed chiefly against these. Its *strategical* plan is based upon an analysis of the phenomena of crisis, and seeks to avert the profound and dangerous disturbances of that period. Into this plan, a number of *tactical* measures, old and new, are incorporated; varying with the condition of the patient, the

environment, the available means; and modified according to the effects produced. As gradually developed in the writer's services at the Philadelphia General Hospital and the Hospital of the Jefferson Medical College, it comprises the following features:

A. General.

1. An abundant supply of fresh air, preferably in the open, and with due care to preserve the warmth of the body by adequate covering and, if necessary, external heat.

2. All the essentials of *good nursing;* including *rest*, proper *diet*, and the free use of *water,* internally and externally. Copious diuresis is especially sought.

3. Keeping the *thorax constantly warm* by poultices during the day and a lamb's wool jacket at night. This may be preceded, in early cases, by *counter-irritation* with a mild mustard and flour poultice.

4. A due supply of *chlorides* by saline infusion (Henry's method), alkaline-saline beverage (author's method), or the administration of a mixture of the chlorides in capsule, followed by copious drafts of water (Quimby's method).

5. Such additional measures of *elimination* (and *alkalinization*) as may be necessary.

6. *Cleansing and* (relative) *disinfection of* the *upper air passages* by local applications to the throat and nose (phenol-iodine-glycerine or silver preparations), or by continuous inhalation (from the perforated zinc respirator of Yeo) of volatile antiseptics, stimulating or sedative (*e.g.*, ethyl iodide, creosote, chloroform, menthol, terebinthinates).

This represents a *ground work* upon which certain *definite* medication is superimposed.

B. Special.

I. Antitoxic Agent.—*Quinine* is given *promptly in massive and repeated doses* (for a vigorous adult 1.6 to 1 Gm. (25 to 15 grains) *circa q. iii h.*) with *progressive lessening of quantity and increase of interval,* according to effect; the drug being intermitted when the temperature (taken in the mouth) tends to

remain below 102.5 F., and resumed when it tends to rise above 103° F. The temperature curve, however, is taken as an *index only*, since the treatment is not designedly antipyretic: and temperatures too low are not desirable. This medication may be kept up for one, two or three days. There may be one dose of quinine only, or so many as fifteen. The rule is effect, not quantity—*enough and no more*. Perhaps four to five doses is a fair "average." Quinine and urea hydrochloride (25 to 50 per cent. recent (Sterile) solution[1]) and *intramuscular injection* (through the *iodized* skin[2]) have been chosen as, on the whole, the most effective preparation and method; but other quinine salts, and administration by the mouth, are likewise employed. It is possible that *methyl-hydrocuperin* (hydroquinine) *hydrochloride* may prove to be a useful preparation. The narrow interval between the toxic dose and the therapeutic dose of the optochin products (ethyl-hydrocuprein and its hydrochloride) inhibits the general use of these drugs at present, despite their high bactericidal power.

II. Pressor Agents.—*Cocaine hydrochloride, caffeine-sodio-salicylate, adrenalin, posterior pituitary principle*—singly or in alteration or rotation—are used, *when necessary*, to maintain the line of *systolic blood-pressure* at or above the level of *pulse frequency*, as charted by Gibson's method. The *pituitary preparation* has the additional advantage of tending to prevent tympanites and dilatation of the stomach. Usually a precautionary injection of cocaine (½ grain, 0.03 Gm.) or pituitary solution (1 mil) is made with the first injection of quinine, since the latter tends to lower blood-pressure slightly. It is repeated every third hour, or as needed.

III. Cardiants.—*Diastolic blood-pressure* and *respiration* are charted on the same vertical (imitating Gibson's pulse-systolic pressure ratio): and an interval of less than ten points is considered a signal of danger, calling for the use of *camphor* or *digitalis* in full doses. Sometimes both agents are employed. Digitalis effects can be obtained more readily when the patient

[1]It is best made extemporaneously with boiling water, and used at a moderate heat.

[2]The point of puncture should be sealed with collodionized cotton.

is under the influence of quinine than in other cases. Concerning both pressor agents and cardiants, care is, of course, necessary not to exhaust by over-stimulation. One is to be "bold but not too bold"—nor too timid.

IV. Auxiliary and Symptomatic Measures.—*Wet cupping, dry cupping, venesection*, and the use of *oxygen, strychnine, atropine, opium, creosotal, ammonium carbonate* and other drugs are reserved for *special indications*, which may or may not be present in any given case. Cases calling for early bleeding are not often seen, but late blood-letting to relieve the right heart is occasionally called for, and may prevent death by pulmonary edema, if done in time.

V. Roborant in Convalescence.—*Tincture of ferric chloride* is given when the quinine is withdrawn, and continued during convalescence.

VI. Specific Stimulation.—In prolonged cases with extensive lesions, in certain cases of tardy defervescence, and in all cases of delayed resolution after defervescence, a *personal bacterin* (so-called autogenous vaccine) is used in progressively increased amounts, with appropriate intervals (three to seven days) between doses. Repetition and increase of dosage are largely guided by temperature and leucocyte reactions.

The early employment of bacterins has not seemed advisable or beneficial, though no harm has been observed as a result of a tentative trial of the method.

VII. Iodine.—Observations as to the value of iodine (in colloidal and other forms) as an adjuvant in cases with extensive lesions and tardy defervescence, are as yet too few to be conclusive, though on the whole they seem to indicate a favorable action.

VIII. Individualization.—In all features of the treatment there must be careful *adjustment* of means and measures to the *special needs* of the *particular patient* at the *moment*. One must not only know when and how to use medicines, etc., but also watch and know when to withhold them. Routine is inferior to discretion. Too much is worse than too little; but too little is not good. The aim is to be "just right."

In this work the author has been fortunate to secure the

co-operation of Dr. John A. Kolmer, of the University of Pennsylvania, in whose laboratory, and under whose direct supervision the observations have been made, with the assistance of Dr. George D. Heist.

A detailed report will be published elsewhere (Transactions Association of American Physicians). For the present it may be stated that the research has been carried far enough to show a distinct germicidal influence *in vitro*, of all cinchona derivatives, upon the three distinctive types of pneumococci. Certain differences appear in the relative values of the various salts of quinine, all of which are much less potent than ethyl hydrocuprein, but all of which show distinct and high germicidal activity. Quantitative differences in the germicidal values of the different agents tested with respect to the different types of pneumococci have also been observed, but these are much slighter than were expected.

Cross observations with other germicides *e.g.*, mercuric chloride, phenol and arsenobenzol) show that while they exert some bacterial effect upon pneumococci, it is insignificant in comparison with that of the quinine derivatives. Similarly, while the cinchona derivatives not only inhibit the growth, but also destroy other bacteria (*e.g.*, Bacillus typhosus, Staphylococcus aureus), the concentration necessary is very many times greater than that fatal to pneumococci. It may thus be positively stated that the experiments show a distinctive relation between all the cinchona derivatives and the three types of pneumococci studied. So far as *ethyl hydrocuprein* is concerned, these observations merely confirm the work of previous observers (Fränkel, Morgenroth and Levy, Moore and others) signalizing this drug as the pneumococcus-slayer *par excellence*. Clinical studies, however, do not show the same superiority of ethyl hydrocuprein over quinine in the treatment of any type of pneumonia, even when the former is reinforced by a specific serum—and this, notwithstanding the fact that such reinforcement has been shown to increase its germicidal value enormously in experimental pneumococcus infection in rabbits. (Moore.)

Moreover, ethyl hydrocuprein is much more toxic than

quinine, causing in laboratory studies upon normal animals much greater central depression of blood-pressure and earlier cardiac paralysis. (Smith and Fantus.) A further fact to be noted in passing is that in the tests by Wright's method the proportional decrease of the germicidal activity of the various drugs in serum below that shown in salt solution is much greater for ethyl hydrocuprein than for the quinine salts.

Experiments *in vivo*, and especially the more important experiments concerning the relation of quinine and allied compounds to the pneumonia poisons are not yet sufficiently advanced to be the subject of report. Meanwhile parallel studies by other investigators are invited, for confirmation, correction or extension of the results, clinical and experimental, obtained at Philadelphia.

A FEW LINES FROM THE MILITARY HOSPITAL, BRAMSHOTT, HANTS

Dr. W. A. Young,
145 College St., Toronto.

Dear Doctor,—Will you kindly send me your journal to above address? Probably you have continued to send it to the old address on Keele Street.

I arrived here two weeks ago to take charge of the surgery here. Lieut.-Col. Kidd, of Ottawa, whom I relieved, has joined the Queen's Unit in France.

We have a hospital of 800 beds here and handle only the cases from Bramshott Camp, where there are 50,000 troops in all. The hospital is filled all the time. We average ten operations per day. On account of the big drive now commencing at the front we are going to put up canvas for 500 patients from France. At present we don't take any from the front.

Am keeping histories of interesting cases here and later on may send you a short paper for your journal. Very best regards. Yours very sincerely,

Charles H. Gilmour,
Major, C.A.M.C.

Society Proceedings

THE ACADEMY OF MEDICINE, TORONTO.

The Academy of Medicine, Toronto, opened its Winter Session for 1916-17 with the Stated Meeting for October, which took place in the Mining Building, College Street, on October 3rd, at 8.30 p.m. The President, Dr. John Ferguson, occupied the chair, with Dr. J. H. Elliott as Honorary Secretary. Before the meeting the President entertained in a most delightful manner fifty or more of the Fellows of the Academy to dinner at the York Club. The guests of honor on that occasion were Dr. A. J. Carlsen, Professor of Physiology, University of Chicago, and Hon. Mr. Justice Riddell, K.C., LL.D.

In replying to the toast the Hon. Mr. Justice Riddell, after saying that he had not expected to be called upon to speak, continued in substance as follows:

It is always a pleasure for me to meet the members of the medical profession; and I have sometimes thought of exchanging one of my doctorates for one in medicine. It is and should be a matter of pride to be a Doctor of Medicine, and now more than ever before.

Were the Almighty to create a human body *uno ictu* and without regard to the past, it would possibly be more simple; but, as things are, it is provided with parts the remains more or less distinct, more or less useless, of the stages of animal life through which man has in the course of evolution passed in the race if not in the individual.

The members of the medical profession have been studying this wondrous human frame for centuries, but now more than ever. No matter how much be learned there will always be more to learn.

In the practice of medicine there is now, I think, more

appeal to common sense and less to authority than at any previous time. The doctor studies the ways of nature and follows them, is content in most instances to clear the way for the *vis medicatrix naturae*, the *vis* of more power and efficacy than all others combined, and in reality the only *vis* which is effective. Empiricism has had its day; I do not mean true empiricism, which is but learning by experience, but that false empiricism which consists in following some rule of thumb derived from others, however noted, or evolved from one's own consciousness. Every disease is not now cured by Joe Pye's weed or Samuel Thomson's lobelia, much less by the old Scotsman's "laudamy and calomy."

The microscope, the most potent of all the physician's weapons, is brought into play more and more. Facts are sought, however they may clash with theory, and medicine is becoming more and more a real science. An exact science it can never be, unless and until all idiosyncrasies, diatheses, are abolished and every human being is built on the same precise plan as every other.

It is no wonder that men who have put in many years at the university, the laboratory and the hospital, in the careful and scientific study of the human frame, its various organs and tissues, the effect of remedies new and old, resent the attempt now being made to place on a par with them those who have studied for a year or two in a proprietary "College" and have by nature or have acquired some manual dexterity in kneading a muscle or limbering a joint. Useful, very useful, as these are in their place, that place is not the same as that of the thoroughly trained physician.

The medical men in Ontario are not behind those of any other country in the world. There may be, there is, here and there an individual whose name stands higher than any individual name in Ontario; but the rank and file of the profession, the actual practitioners in our Province, yield to no other, while the professors in our colleges are admittedly of the highest standing.

And if the medical profession has reason to be proud of its professional standing, how proud must it be of the conduct of its members at this time of stress and deadly conflict—this

Armageddon, in comparison with which all other so-called Armageddons are but as childish prattle! Hundreds of our doctors having given up lucrative practices and positions to do their bit; some as fighting men to meet the Hun on the field of battle with deadly weapons; others to fight against equally dangerous enemies—wounds, disease and death. Whether in the shadow of the Pyramids, by the marshes and mud of Saloniki, at the front in Belgium or in France, or in the hospital in Britain or in Canada, the Ontario surgeon is doing all that man may do to save his comrade in this war for democracy and righteousness.

We were glad to hear from our friend from Chicago that the soul of the United States is the same as the soul of Canada, and that except for some (not all) of German birth or German descent the sympathy of the American people is with us in this war.

Wherever I have gone in the United States since the war began I have found the same sentiment. For example, a few months ago I was privileged to speak at a gathering of graduates at Yale University, some 1,500 or 2,000 of classes from 1855 to 1915. After I had told them of what we were doing in Canada and why, they rose to their feet *en masse* and gave the Yale cheer for Canada. I could have found no more enthusiastic audience in the University of Toronto.

This evening I told our friend Dr. Carlsen that we did not want the sympathy of the United States if by "sympathy" is meant "pity." We in Canada have no regrets, we need no pity (we should resent pity); we are proud and glad to be permitted to fight in this cause, and we pity those who cannot.

Just as the United States half a century ago fought for the freedom of a small portion of the human race, so now we are fighting for the freedom of humanity, for the right of every nation to develop in its own way, to rule itself in its own way; and as Americans were proud, and justly proud, to fight in that cause then, so Canadians are proud and more than justly proud to fight in this, now.

Whether willingly, accidentally, unavoidably or otherwise, the United States has, for the time being, abdicated its leadership in democracy on this continent, fairly won in the Civil

War, to its younger sister Canada, who proudly and gladly assumes it; for Canada has found her soul.

These two peoples, at peace for over a hundred years, with the same language and institutions, the same law and religion, having a common heritage of glorious history, are determined to live side by side in amity and generous emulation. Neither will submit to a tyrant; each will live and let the other live its own life, real friends, cousins, brethren.

Visitors like our friend Dr. Carlsen, bringing messages of friendship and true sympathy from the neighboring nation, will help to cement our amicable relations and render them perpetual —a consummation devoutly to be wished for.

We welcome him most cordially, and ask him to take back with him the warm regards and best wishes on our part for his own country which he has expressed for ours.

The dinner was most enjoyable, the kindness of the host being highly appreciated.

The formal part of the programme consisted of the usual reading of the Minutes, after which Dr. N. A. Powell and Dr. E. E. King each presented the Academy with a volume, the works of Dr. Thomas Sydenham, the edition presented by Dr. King being in Latin.

Dr. R. A. Reeve, one of the ex-Presidents of the Academy, in his usual able manner, moved a resolution of sympathy to those Fellows of the Academy whose sons had during the past few weeks made "the supreme sacrifice" on the field of battle —Dr. A. A. Macdonald, Dr. H. T. Machell, Dr. C. R. Sneath and Dr. R. B. Nevitt. The resolution was at once reverently adopted by a standing vote.

The President then delivered his Inaugural Address, entitled "What the Academy has Achieved, and its Aims for the Future." We wish to take this opportunity of congratulating Dr. Ferguson upon his address, it being an exceedingly interesting résumé of the work of the Academy since its inception, and we trust that some of the suggestions he made in this address, particularly in reference to an increase in the membership of the Academy will be accepted by each and every Fellow, who will do his part to induce his friends in the Profession to apply for Fellowship. Had Dr. Ferguson's address not already

appeared in print, we would undoubtedly have included it in this issue of THE JOURNAL.

The President's address was followed by the address of Dr. A. J. Carlson, Professor of Physiology, University of Chicago, entitled "Some Recent Contributions to the Physiology and Pathology of the Stomach." The lecture was illustrated by lantern slides. We hope to have the opportunity of giving our readers the benefit of reproducing this address in full in an early issue.

The Section of Medicine met on Tuesday, October 10th, under the Chairmanship of Dr. F. A. Clarkson, Dr. G. W. Ross occupying his post of Secretary. The subject of the Chairman's address was "Some Poisonous Plants in Ontario." The balance of the evening was devoted to Clinical Cases shown by Dr. G. W. Ross, Dr. E. J. Trow and Dr. F. W. Rolph.

The Section of Surgery met in the Academy Building on Tuesday, October 17th. The Chairman, Dr. C. B. Shuttleworth, delivered an address which was full of interest. Papers were read by Dr. O. R. Mabee, Dr. A. B. Wright, Dr. A. Primrose and Dr. C. F. Moore. Though we know that comparisons are invidious, the other contributors of the evening will pardon us, no doubt, for saying that Dr. Primrose's paper was perhaps the most interesting, giving as it did some of his surgical experiences when at Saloniki.

The Section of Pathology convened on Tuesday, October 24th, when Dr. F. W. Rolph delivered an address on "Some Aspects of the Pathology of Diabetes." Dr. F. W. Schofield had been invited to read a paper on the "New Method for the Production of Typhoid Vaccine," but was unable to be present, as he had already left for Vancouver on his way to Korea.

The Sections of State Medicine and Ophthalmology did not meet for October.

TORONTO MEDICAL WOMEN MEET

THE members of the Toronto Women's Medical Association spent a very pleasant afternoon in the Tea Rooms, 72 Bloor Street West, a few weeks ago, at a meeting called in honor of Dr. Agatha Doherty, who is home from England on a short

visit. The President, Dr. Jennie Smillie, presided, and Dr. Jane Sproule did the honors of the tea table. Dr. Doherty gave a very interesting and instructive address on the work of Medical Women in England. Among those present were Dr. Stowe Gullen, Dr. Skinner-Gordon, Dr. Isabella Wood, Dr. Dorothea Orr, Dr. Lelia Davis, Dr. Elizabeth Stewart, and Dr. Catherine Woodhouse.

THE CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

The Fifteenth Annual Meeting of The Canadian Association for the Prevention of Tuberculosis was held in the Hôtel de Ville, Quebec, on September 12th and 13th, under the presidency of Senator J. W. Daniel, M.D., of St. John, N.B.

The delegates were the guests of the City of Quebec, and their stay in the Ancient Capital of Canada was made most pleasant by the many attentions showered upon them by the citizens, and particularly the medical profession of the city.

The principal subjects discussed on the first day were, "Why Notification of Tuberculosis is Necessary," "Reasons Why Open Cases Should be Isolated," opened by Drs. P. H. Bryce and J. H. Holbrook.

At the evening session an official address of welcome was delivered by His Honor Sir Evariste Leblanc, Lieutenant-Governor of the Province of Quebec, whose earnest words bespoke his hearty sympathy with the work of the Association. It was his first opportunity to speak in public since the disaster of Monday, when ten men lost their lives in the fall of the central span of the great Quebec bridge, and he took advantage of the occasion to extend his deepest sympathy to the families of those carried down with the enormous structure.

The public address on Tuberculosis was given by Professor J. E. Dubé, of Montreal, who gave a most excellent exposition of the present status from knowledge of the disease and of the practical methods of application of means of prevention.

Dr. David Townsend, of the Jordan Memorial Sanitarium, River Glade, N.B., gave a paper in which he presented an

earnest plea for the early diagnosis of tuberculosis as the great factor in securing permanent results in treatment.

Professor Arthur Rousseau, M.D., Professeur à l'Université Laval, Quebec, presented a most excellent paper upon the place of the Dispensary in the anti-tuberculosis campaign, in which he emphasized his opinion that every general hospital should have its Tuberculous Clinic, which, with its visiting nurse, would prove a most useful adjunct in the discovery of open cases and would soon lessen the number of cases of infection.

Dr. F. C. Neal, of Peterborough, in a most excellent paper, outlined the methods of anti-tuberculosis work in a large town, particularly as developed in his own city. He paid a tribute to the work of the visiting nurse, and indicated how their organization had secured the hed co-operation of the citizens and of the Health Department. The paper is a valuable one, which should be of great service as a guide to the development of similar anti-tuberculosis measures in other towns.

At the close of the meetings the joint sessions of the Canadian Public Health Association and the Services Sanitaires de la Province de Quebec began and continued two days.

Among those present from Ontario we noticed Dr. Charles D. Parfitt, Gravenhurst; Dr. R. W. Bell, Dr. Adam Wright, Toronto; Major J. W. S. McCullough, Captain Fitzgerald, Camp Borden; Dr. Helen MacMurchy, Ex-Controller McCarthy, F. A. Dallyn, C.E., Dr. Naylor, Dr. J. H. Elliott, Toronto; Dr. F. Montizambert, Dr. P. H. Bryce, Dr. Race, Sir James Grant, Ottawa; Dr. J. H. Holbrook, Hamilton; Dr. F. C. Neal, Peterborough.

Much of the success of the meeting was due to the untiring efforts of the energetic Secretary, Dr. George D. Porter.

At the close of the last session on Wednesday the delegates were motored to Kent House, Montmorency Falls, to a luncheon as guests of the Municipal Council. It was a delightful day, the roads were at their best, and all had a glorious view of the wonderful waterfall where the water drops a sheer 280 feet into the St. Lawrence below. All have carried away most excellent memories of the days spent in and about the city founded by Champlain.

Militia and Naval Medical Services and Ambulance

MILITARY CROSS FOR DR. J. R. IRWIN

From information received it is learned that Dr. John R. Irwin, of Cobourg, who has served for a year with the Royal Medicals in France, was recently summoned with twenty others to Windsor Castle, where he received his decoration, the Military Cross, from the hands of the King. His Majesty shook hands with the men, who afterwards lunched at the castle and were royally feasted. Dr. Irwin was attached to the 2nd Worcestershire Regiment, and went down into the front line at midnight when the enemy blew up a mine, burying two of our men. He went down the shaft thirty feet, and out three hundred feet, bent double, excepting when he had to crawl on hands and knees, and spent an hour working with the men. He was immediately awarded the Military Cross.

CAPTAIN H. B. JEFFS WOUNDED

Captain Howard Brown Jeffs, eldest son of Dr. and Mrs. W. H. Jeffs, 2761 Yonge Street, North Toronto, has been wounded. Captain Jeffs arrived in the city on October 8th, and has to report at Shorncliffe, England, the middle of January. Captain Jeffs graduated in Medicine in 1914. He was a Houseman in St. Michael's Hospital when war was declared, and was the first medical man here to sign up for overseas service. Going to the front with the No. 2 Field Ambulance Corps of the First Contingent, he has seen about as much of the life on the Canadian front as anyone. He is twenty-four years of age and native of Havelock, Ont., where his father practised medicine previous to moving to Toronto twelve years ago.

MOWAT MEMORIAL IN KINGSTON TO BE USED BY COMMISSION

There is every probability of the Military Hospitals Commission taking over the Sir Oliver Mowat Memorial Hospital at Kingston for the care of consumptive soldiers, the Local Board having agreed to the transfer for a term of years. It is likely additional buildings will be reared to accommodate one hundred patients at once. The buildings will be of permanent type, and when the Commission has concluded its term the property will revert to the Local Board, it in the meantime not having exacted any rental. In a smaller way the local directorate will care for civilian sufferers.

SANITARIUM ACQUIRED BY HOSPITALS COMMISSION

The Rocky Mountain Sanitarium, near Frank, south of the Crow's Nest Pass, has been acquired at a nominal rental from the Franco-Canadian Collieries Company by the Military Hospitals Commission as a sanitarium for the treatment of tuberculous soldiers belonging to the Prairie Provinces. The sanitarium contains sixty rooms and has a magnificent situation. In conjunction with sanitaria previously acquired at Ninette, Man., and at Tranquilla, eight miles west of Kamloops, the new sanitarium will provide for all the returned soldiers suffering from tuberculosis whose homes are west of the Great Lakes.

THE CONVALESCENT HOSPITAL AT WOODCOTE PARK, EPSOM, SURREY, ENGLAND

Five hundred Canadians are now located at the Convalescent Hospital at Woodcote Park, Epsom, Surrey, England, under the control of Maj. L. E. W. Irving, D.S.O., Canadian Army Medical Corps. Captain R. H. Thomas, of Toronto, is his adjutant. Besides the Canadians, there are one thousand British, five hundred Australians and twenty-four South Africans at the Hospital, thus realizing the King's desire that soldiers of the Empire get to know each other.

Captain H. B. Paul has been appointed Commandant of the new Canadian Hospital at Otchingill, near Shorncliffe.

Major (Dr.) C. A. Warren has been promoted to the rank of temporary Lieutenant-Colonel. Lt.-Colonel Warren is acting A.D.M.S. at Camp Borden.

Lt.-Colonel G. Adami, Professor of Pathology, McGill University, Montreal, was recently appointed Official Canadian Recorder of Medical History of the War.

Dr. Evelyn Windsor, Physician to the Calgary School Board, enlisted last month for active service with the A.M.C. She is, we understand, the first Canadian woman doctor to go to the front.

Captain D. A. McClenahan, a native of Hamilton, who graduated from the Medical Faculty of the University of Toronto in 1894, has been wounded. He was commanding a draft of a sanitary section.

His Majesty the King has authorized Surgeon-General Guy Carleton Jones, Director of the Canadian Medical Services at London, to wear the insignia of an Officer of the Legion of Honor, conferred by the French President in recognition of valuable services.

Captain Whittemore has been reported wounded in recent fighting and is now in Gray's Inn Hospital, London. Captain Whittemore is a grandson of Dr. William Oldright, of Toronto, and a graduate in Medicine of Toronto University.

Captain (Dr.) D. J. McKay, of Woodstock, spent the last few days of September with his family. Captain McKay left Canada in October last with the Second Pioneer Battalion, and for six months has been serving on the Permanent Board at Bramshott, England. Captain McKay came over in charge of a party of invalid soldiers and returned to England within a few days.

At the request of the English War Office, Dr. Clarence Starr left Toronto last week of September to do special orthopedic work in one of the London hospitals. Dr. Starr will have the rank of Lieutenant-Colonel, and expects to be gone about six months.

Lieut.-Colonel Irving Cameron, of the Ontario Base Hospital at Orpington, Kent, England, and Captain B. P. Watson, Professor of Gynecology, University of Toronto, who has been on the staff of No. 4 General Hospital, Saloniki, returned to Toronto on September 25th.

Professor J. J. McKenzie, of the University of Toronto, addressed the members of the Canadian Club in Toronto on October 2nd. He delivered a most interesting address on some of his experiences with No. 4 Canadian General Hospital at Saloniki.

We take this opportunity of tendering to Dr. Bertram, of Dundas, sincere sympathy on the loss of his son, Major J. K. Bertram, who was killed in action in September. Major Bertram left Canada with the 20th Battalion, but had been recently transferred to the Mounted Rifles. He was twenty-six years of age and a fourth-year student in Medicine at McGill University. During his vacation he practised under Dr. Olmstead, of Hamilton.

Lt.-Colonel (Dr.) Roland Playfair Campbell, of Montreal, has been killed in action. Dr. Campbell was born in Montreal in 1876, and graduated in Arts with honors at McGill University, later receiving his degree of M.D., C.M., with honors. In 1904 he was appointed Medical Superintendent of the Montreal Hospital, and in 1906 was made Surgeon to the Out-patient Department of the Montreal General Hospital. Dr. Campbell had been connected with the military since 1904, and since the outbreak of the war commanded No. 5 C.F.A. at Valcartier, and in England was attached to No. 1 Canadian General Hospital. Returning to Canada, he took command of No. 6 Field Ambulance, which left Montreal in May, 1915, and went to France in July 1915. He has a brother, Dr. J. Campbell, at Saloniki.

Personals

Dr. H. B. Anderson spent the last two weeks of September at Rochester, Minnesota, and returned to Toronto on October 6th.

Dr. D'Arcy Frawley, of 503 Markham Street, Toronto, will in future confine his practice to gynecological surgery and obstetrics.

Dr. Helen MacMurchy, of Toronto, Inspector of Hospitals, Prisons and Public Charities for Ontario, was entertained by Government officials of Manitoba on September 21st. Dr. MacMurchy is returning east *via* Keewatin, where she will make a short stay.

We take pleasure in announcing that Dr. H. K. Detweiler, of Toronto General Hospital, has consented to become identified with our editorial staff. We welcome him to "the fold," and feel sure that our readers will benefit from his contributions from time to time.

Dr. and Mrs. F. W. Schofield, of the Provincial Health Laboratory, left Toronto on October 3rd for Vancouver en route for Korea, where Dr. Schofield will take up the position of Professor of Bacteriology and Hygiene in the Medical College in Seoul. Professor Schofield is going out in behalf of the Presbyterian Foreign Missions Board.

Obituary

THE LATE JOHN B. MURPHY

Dr. John B. Murphy has left the medical profession a legacy of inestimable value. His classical contributions to surgical literature and the material evidences of an original mind are in themselves sufficient to enrol his name with those of others who have widened the scope, refined the art, and raised the status of surgery.

While these facts are fully recognized, it should be said that Dr. Murphy's greatest service to the medical profession was his clinical teaching. He believed in, and most conscientiously observed, the necessity of searching in all parts of the world for the best to be found in the profession. His spirit of leadership was shown in that he was one of the first to investigate new and attractive ideas. His investigations were conducted in a manner characteristic of him: rigid in detail and in ascertaining the truth, but with full appreciation of the success of his fellow surgeons. Inspiration received from other great men he was able to impart in a way which made him the most popular and most valuable clinician of the present generation.

His clinical lectures, many of which, fortunately, have been preserved, were delightful. He could make the most simple pathological lesion seem interesting and profitable, and possessed the happy faculty of never appearing uninterested in commonplace conditions. His operative work reflected his personal characteristics, and to those who appreciate the essentials of good surgery Dr. Murphy was satisfying in the fullest degree. His operating-room ritual demanded the utmost precision, accuracy and completeness of detail. His apparently never-failing energy was infectious and extended to everyone coming in con-

tact with him. His inspiration extended beyond the clinic; his patients profited by it during their convalescence as they had profited by his surgical skill. It was his special delight to attack the obscure, the difficult problem, and some of his most valuable work was done in relatively uninviting fields. In visiting his clinic one never failed to be thrilled by a personality which was an inspiration to all, but particularly to the young man desiring real success in surgery.

Those who have been so unfortunate as to acquire disablement should ever keep in mind the life and accomplishments of John B. Murphy. Though in the very beginning of his career his health was undermined, he was able by the most intelligent conservation of energy to do more in the time given him than the majority of men accomplish in the allotted span of years. Even with a menace hanging constantly over him, Dr. Murphy carried out his life-work with unlimited vitality, cheerfulness and optimism. "He has fought the good fight."

Donald C. Balfour.

THE ROYAL JUBILEE HOSPITAL VICTORIA, B.C.

The Grand Jury of the Assize Court, Victoria, recently reflected on the conditions of the tubercular ward of the Royal Jubilee Hospital, Victoria. Possibly there was some ground for the statements made, though it would appear as if the hospital authorities were not to blame. While the law requiring hospitals in receipt of Government grants to provide accommodation for patients suffering from tuberculosis came into force, the hospital authorities asked for a grant from the City Council to meet the demands of this law. This request was, however, refused, and the hospital was unable to do anything, as they had no funds available for the purpose. A special committee has been appointed to approach the Provincial Government in the matter. A maternity ward has recently been added to the hospital, and was formally opened on May 26th.

The Physician's Library

Homans' Automobile Handbook. The gasoline motor car, with full description of the essential parts and auxiliaries and directions for its management, operation and care. By J. E. Homans, author of "Self-Propelled Vehicles," etc. New York, Sully & Kleinteich.

Many physicians are natural mechanics. To them this book will be exceedingly interesting. To the balance of the profession who, like the writer, do not profess to understand much about an engine, and when their car stalls leave it on the road, Mr. Homans' work will be most helpful and will many a time save the employing of a mechanic at eighty cents an hour, plus a liberal tip.

Lateral Curvature of the Spine and Round Shoulders. By Robert W. Lovett, Boston. Third Edition. P. Blakiston's Son & Co., Philadelphia.

This excellent monograph has now appeared in its third edition, and the reviewer ventures to predict that it will go through many more editions before it is replaced by anything better in English.

The features of the new edition include a chapter on the history of scoliosis, commencing with the coining of the word "scoliosis" by Hippocrates, and passing through all the stages of mechanical and gymnastic treatments of the various eras. In addition, there is considerable space devoted to the recent revival of the forcible corrective treatment advocated by Abbott.

But it is not upon new features that Lovett's work depends for its quality. From a scientific standpoint it would be hard to improve upon it. The chapters on the anatomy and pathology constitute the most authoritative and complete exposition of the subject in English. The chapters on treatment are com-

plete, and while presenting most fully the personal views of the writer, they also present very fairly a description of the methods advocated and used by others.

The illustrations are excellent and abundant, and the book comprising over two hundred pages, is a credit to the publishers.

The Kinetic Drive; Its Phenomena and Control. By George W. Crile, M.D., Professor of Surgery at the Western Reserve University. Octavo of 71 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $2.00 net.

This work comprises the Wesley M. Carpenter Lecture given before the New York Academy of Medicine in 1915. Its purpose is to show the manner in which the modern methods of living are greatly increasing the rate of transformation of the energy stored in the body into actual force or kinetic energy. The rather striking and fanciful title simply refers to this rapid change of potential into kinetic energy. The mechanism for this change is chiefly the interrelation of the brain, thyroid and adrenals. The book is written in an excellent literary style and is especially recommended to all interested in the philosophical branches of medicine and surgery. J. L.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By George E. De Schweinitz, M.D., LL.D. Eight edition, 1916. Philadelphia and London: W. B. Saunders Co. Sole Canadian Agents: The J. J. Hartz Co., Toronto.

The eighth edition of this standard work has been thoroughly revised and brought up to date. Especially might be mentioned the chapter on Iritis, which has been largely rewritten to conform with the newer ideas in regard to autotoxemia and mucous membrane infections.

Many of the new operations or modifications of the older operations for glaucoma and cataract are mentioned, although not generally described in detail. An exception is made in the

case of corneoscleral trephining, a detailed description of which is made in an article by Col. Elliot himself. Another article from the pen of the originator is introduced in Dr. William M. Sweet's description of his X-ray method of localizing foreign bodies in the eye.

It is quite certain that this edition will be given the same general cordial reception accorded to the previous editions of this work. It can be thoroughly recommended as a book of reference for both general practitioner and ophthalmologist.

The Art of Anesthesia. By Paluel J. Flagg, M.D., Lecturer in Anesthesia, Fordham University Medical School; Anesthetist to Roosevelt Hospital; Instructor in Anesthesia to Bellevue and Allied Hospitals; Consulting Anesthetist to St. Joseph's Hospital, Yonkers, N.Y.; and formerly Anesthetist to the Women's Hospital, New York. Publishers: J. B. Lippincott Co., Philadelphia and London, 1916. Price, $3.50.

Among the chief points that may be noted in this book are the details carefully set forth dealing with the different methods of administration, particularly in the use of ether. The author lays a good deal of emphasis on the distinctive stages of anesthesia, and gives detailed directions for the anesthetist to follow in the administration of general anesthetics.

His statement, however, as to the extreme value of the corneal reflex as a corroborative sign is open to question, and with his statement that "we have yet to see any trouble arising from its use," issue may be taken.

The conjunctivo-palpebral and the pupillary reflexes should indicate to any anesthetist the depth of anesthesia at any stage without touching the cornea. If the author's directions for eliciting the corneal reflex would be carried out by every anesthetist at all times, no harm might come of it. But the method is so open to error in technique that it seems unwise to emphasize the value of it in routine work, when the other eye signs are of equal value and the taking of these reflexes not so likely to produce harm. Trouble has arisen and permanent injury done to the eye by the too vigorous use of eliciting the corneal reflex.

Those who know will heartily agree with the author in his statement that the "art of anesthesia" implies an intimate knowledge of general medicine, pathology, surgery, therapeutics, psychology and special branches.

The volume is clearly printed and elaborately illustrated.

The Practice of Obstetrics, designed for the use of Students and Practitioners of Medicine, by J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College; Visiting Obstetrician to Bellevue Hospital, New York City; Surgeon to the Manhattan Maternity and Dispensary; Consulting Obstetrician to the New York Maternity and Jewish Maternity Hospitals. Fifth edition, revised. With 1316 illustrations, including five colored plates and 34 figures printed in colors. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street.

It seems but a short time since the first edition of Professor Edgar's "Practice" appeared from the press, and it speaks well for its literary worth that the volume has had to be edited for the fifth time. The fifth edition contains a good deal of new material. The articles on painless labor and twilight sleep are most interesting right now, in view of the differences in opinion on this subject. We commend the chapter devoted to the artificial feeding of infants as being exceedingly up-to-date and presenting, as it does, the latest views on the subject. The volume covers nearly 1,100 pages and is divided into ten parts.

Preparedness—The Nation's Armament—The Doctor's Armamentarium.

We recently received from Messrs. Reed & Carnrick, 42 Germania Avenue, Jersey City, N.J., their latest booklet, entitled "Preparedness—The Nation's Armament—The Doctor's Armamentarium." We understand that a copy of this booklet has been sent to every member of the Profession in Canada, though we are asked to announce that any doctor who has not received a copy can do so on request. The booklet is illustrated in colors and is gotten up in the usual high-class manner of the publishers.

AN IDEAL RESORT FOR CONVALESCENT PATIENTS

PHYSICIANS have frequent opportunities of referring those convalescing from illness to a resort where they can quickly recover their old-time vigor and enjoy an almost ideal climate, 2,500 feet above sea level. Such a resort is Virginia Hot Springs, just one night out of New York. The management have spent a huge sum of money on this choice spot in "Old Virginny," and are anxious that the Canadian medical profession should continue to refer cases there, as they have done in years gone by. The Homestead Hotel is one of the handsomest houses in America. It is built of solid brick, containing 500 guest rooms, with many parlor suites and 300 private baths. It is spacious, dignified, quiet and restful, with magnificent mountain views on every side. It is no exaggeration to say that Hot Springs means the Homestead Hotel. The Company owns 5,000 acres surrounding the hotel, so that physicians can understand that their patients have every opportunity of enjoying outdoor life and regaining thereby their normal strength.

The dominant factor making Hot Springs world-famous is the cure in which the climate as well as the water assist. The waters are conducted by gravity to the bathhouse and distributed fresh from the ground to the bathing apartments on different floors without loss of heat or its increase by artificial means, and fully charged with all their gases and other health-giving qualities. At none of the celebrated places in Europe, and at no other springs in America, is the temperature prescribed for hot baths that at which the water actually emerges from the earth in the natural springs.

The springs are beneficial, not only for bathing, but for drinking. Besides the hot springs, the effects of which as drinking waters are pronounced, there are magnesia, sulphur, and soda springs within the grounds, and alum water from a spring not far distant. The water from the soda spring comes strong and clear from the ground at a uniform temperature of 74 degrees. Physicians should address for full information H. Albert, Esq., Hot Springs, Va., U.S

The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. XL. TORONTO, DECEMBER, 1916 No. 6

Editorials

ANOTHER OF GERMANY'S HELLISH DISTORTIONS OF SCIENCE

HORROR has been piled upon horror so long by the atrocious Huns that our minds can hardly grasp the full significance of the charges that the French and other allied prisoners are being deliberately infected with tuberculosis by their brutal German captors. The story has been told by investigators of international repute and has not been denied by the Huns, though one of their sympathizers feebly tried to do so. By a comparison of the extent of tuberculosis among the prisoners taken by the Allies and by their foes, it has been found upon exchange that the French are coming back in hordes, infected with tuberculosis. The infamous methods employed in handling prisoners are so far behind the boasted science and kultur of this bestial race when at peace that it needs no logic to know that they are purposely waging war on

the non-combatant prisoners in an even more deadly, hope-destroying way than when dropping bombs on the women and children of the eastern English coast, because they have them under their thumb where something far more insidious and far-reaching than a bomb can work so fearfully at close range.

Germany needs men's labor, badly too. And every " poilu " would cheerfully go about the gathering of their harvest, in the open sunny fields, ay, and sleep there, too, " *à l'auberge de la belle étoile,*" if he could hope thus to maintain his vigor till the war ends. The burden of watching him from escape would be simple. The Huns well know that the " poilu " does not ravage their homes and defile their virgins. But at greater cost, these men are huddled in crowded camps, kept in darkness, made to sleep with tuberculous men, in beds never washed or aired, and fed from unwashed dishes used previously by their tuberculous companions. Most conclusive of all is the fact that the prisoners are not treated for the cure of consumption when, so quickly, it does set in.

The motive is easily construed. A diabolical determination to stamp out its rival races is the root of the submarine attacks on passenger ships, Zeppelin raids on quiet villages, and the mutilation of the bodies of earlier prisoners, by striking at all the agencies that prolong the life of a nation, the children, the mothers, and the vital forces of the men. Germany has gained the loathing of the whole world, by its hellish distortion of a little science and a little

knowledge, for the destruction of its competitors in the fields of commerce. Long before this war broke out, the common talk of the "young bloods" of Prussia was, due to their coarser interpretation of a coarse philosophy, that people, races, arts and crafts are "male" or "female," and that the "male" has the happy right to prey upon the female, *ad libitum*, since it exists for his pleasure, a bestial philosophy that reflected itself *constantly* in their daily life, their determination to procreate as rapidly and as long as possible to "make soldiers for the Emperor." This being the root of their existence, they must needs strike at the prolongation of the French race, so as to inflict what they consider the most vital wound. And it is so! But the French have done miracles already, and it is hoped that they can rise supreme over this trial.

The Germans are short-sighted in their blows. and forget that this disease will inevitably react on the masses of people throughout the world as a cowardly blow below the belt, and, also, that there will surely be an infection of a certain number of their own men who have to control these camps. There are a few "show" camps to which the United States Embassy has gained access, but the largest number of prisoners by far are in distant camps to which all entrance by neutral agents is prohibited. Here is where such deeds are perpetrated.

There should be an unerring calculation of the damage thus done the allied races, and for every officer or private infected with tuberculosis, or for every

woman and child killed by air raids, there should be so many German officers, privates, women and children *sterilized* after the war is victoriously ended for us. Not only that, but France must seal up the fatal bomb sent back at her and take out its death-dealing burden, by checking this infection where it stands NOW. We must get together in a tremendous effort to form sunny homes for these sad men, to isolate them as happily as possible and *arrest* the disease, without their passing it on to future generations.

The King, years ago, instituted prizes for the birth of twins or triplets, and that plan has been set on foot in France, where the birth-rate was low even before the war. There might, indeed, be a tax placed throughout France on the childless, whether married couples or single wage-earners. And it will be cheerfully paid. Many a single woman has cried out bitterly, in the solitude of her room, in these sad days, "Oh, that I could bear a son, to give him to my country!" and these thousands of women, even though supporting aged parents or helpless, invalid sisters, will eagerly strain their slender resources still further, to meet this dire need. Surely nothing but the curse of Almighty God could be sufficient punishment for a nation, with the black heart of Germany, who could commit such deeds and glory in them!

Canadian Journal of Medicine and Surgery

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Reprints supplied at Net Cost

Original Contributions

GALYL IN THE TREATMENT OF SYPHILIS*

BY GORDON BATES, M.D.
Assistant in Clinical Medicine, University of Toronto; Assistant Pathologist, Toronto Hospital for Insane.

SINCE the outbreak of war, the resultant prohibition of the importation of salvarsan and neosalvarsan from Germany the manufacture of these substances has been successfully carried out by scientists in several of the allied countries. On the whole, treatment with these products has been followed by results similar to those obtained with original salvarsan. A report of them would involve nothing particularly new. I, therefore, propose to-day to give a brief *resumé* of results from a limited number of treatments with a distinctly new agent in the treatment of syphilis.

Galyl is a definite arsenio-phosphate compound discovered by Mouneyrat. Like salvarsan it is a derivative of arsenobenzol, consisting of two molecules of this substance linked with two phosphorus groups.

Its name is tetraoxy-diphospho-amino-diarseno-benzene. Its use in recurrent fever, frombesia, and trympanosomiasis has been investigated by Laveran of the Institute Pasteur, Rousky, Lafont and others. Its arsenic compound is 35.3 per cent, phosphorus 7.2 per cent. It is a yellow powder not unlike salvarsan in appearance, and comes in ampules containing .4 grms. It is insoluble in distilled water, but readily soluble after a small amount of sodium carbonate has been added. To overcome this difficulty each ampule contains sodium carbonate as well as galyl, thus rendering the whole readily soluble.

The method which I have used in administering galyl is the simple syringe method which may be used in the adminis-

*Read at the Annual Meeting of the Ontario Medical Association.

tration of neosalvarsan. The contents of an ampule are dissolved in 10 c.cms. of distilled water and the amount determined on given immediately, intravenously, by means of a 10 c.cm. syringe. The usual dose for a male is .3 grms., for a female .25 grms.

Contra-indications include grave alterations in the heart and blood vessels and serious disturbances of the central nervous system, *e.g.* far-advanced general paresis, alcoholism, diabetes or pulmonary tuberculosis. These contra-indications are as a rule only relative and usually small doses can be used.

Owing to the fact that it has been found impossible to procure galyl in large quantities, I am able to report only a few cases.

Case 1. Mrs. G., infected in March, 1916. On April 13th when first seen, she had a definite primary chancre of the lip, a roseolar rash covering the whole body and a sore throat. The Wassermann reaction was strongly positive (4.4.4.). Spirochetes were demonstrated in the serum from the chancre by means of the India ink method and .25 grms. of galyl given intravenously. No reaction followed the treatment. Six hours afterwards an attempt was made to demonstrate spirochetes from the chancre again. On this occasion both the India ink and dark field methods were used, but the attempt was unsuccessful.

On the following day the chancre had dried considerably and looked better. On April 15th it had become smaller, and in about ten days it disappeared. The sore throat cleared up rapidly and the rash had disappeared in a week. The Wassermann reaction remained strongly positive until four weekly treatments had been given. After the fifth treatment had been given it dropped from 4.4.4 to 4.3.2. Two successive Wassermann's since the sixth treatment have been negative.

Case 2. Husband of the above. This man had been given two doses of salvarsan six months previously and had no clinical symptoms. His Wassermann reaction was strongly positive. On May 25th, after four treatments of .3 grms. of galyl, his Wassermann had weakened to 4.3.2.

Case 3. Mr. H. A typical secondary case with a primary which had been diagnosed "soft chancre." One Diarsenol

treatment was given on February 14th. This caused an immediate subsidence of clinical symptoms. Treatment was interrupted for two weeks then recommenced on March 2nd, when .25 grms. of galyl were administered. Galyl treatments (.3 to .35 grms.) were then given at weekly intervals for six weeks. After the fifth treatment the Wassermann reaction became negative and has remained negative since. These were all "office" treatments, and in no case was a treatment followed by a reaction.

Case 4. Miss W. Another typical secondary case of about six weeks' standing. Her Wassermann reaction was strongly positive. The first galyl treatment, .25 grms., was given on March 1st. Following this treatment, .25 grms. were given weekly up to April 17th, except on one occasion, when Diarsenol was given. After six treatments (including one Diarsenol treatment) the Wassermann became negative. After the first treatment there was some nausea. There was no disturbance after any of the others. The clinical symptoms disappeared within a week after the first treatment.

Case 5. Mr. B. This patient had had a great deal of treatment. At various times since September, 1914, he had had sixteen treatments with salvarsan and diarsenol. In addition to this he had been given mercury salicylate intramuscularly for two periods of five and six months continuously. At the end of this time, although he had no clinical symptoms, his Wassermann reaction was still strongly positive. He was given galyl (.3 grms.) on April 13th. On May 18th, after five treatments, his Wassermann reaction was negative. There was no reaction after any treatment.

In these and other cases in all fifty-five tubes of galyl were used. A summary of results is as follows:

1. Clinical symptoms cleared up rapidly.

2. The Wassermann reactions became negative as a rule in approximately the same time as with salvarsan or neosalvarsan.

3. In three cases (three treatments) there was some reaction. This consisted mainly of nausea. In several cases there was a slight rise in pulse and temperature immediately after the treatment. Usually there was practically no reaction.

4. There was no evidence of thrombosis in veins following treatment.

Militia and Naval Medical Services and Ambulance

THE CANADIAN ARMY MEDICAL SERVICE UNDER THE SEARCHLIGHT

A REPORT on the Canadian Army Medical Service, presented a few weeks ago to the Minister of Militia by Col. Herbert A. Bruce, of Toronto, whose official title is Special Inspector-General Medical Services, Canadian Expeditionary Force, is, it is safe to say, one of the frankest indictments of a Government service ever received by the responsible Minister. The report is dated September 20th, 1916, and is the result of investigations carried on subsequent to July 31st, 1916, so that it is distinctly up to date.

The report is divided under twenty-three headings. Each one of them is an indictment, and judging from the headings, as printed at end of this article, is intended to be such.

In introducing his report, Dr. Bruce announces that all of its criticisms and recommendations are not merely his alone, but have been endorsed by each member of the committee appointed by the Minister, at Dr. Bruce's request, to assist in the work.

The committee consisted of Col. F. A. Reid, Director of Recruiting and Organization; Col. Wallace Scott, Lieut.-Col. Walter McKeown, Lieut.-Col. F. W. E. Wilson, Capt. Chas. Hunter.

Dr. Bruce absolved the medical and nursing staffs from blame, as he found doctors and nurses discharging their duties in a most self-sacrificing and exemplary manner. Many of the medical staff are, however, placed in positions where their special training is not being used to the best advantage. The

responsibility for this waste must be laid at the door of the D.M.S., who, says Dr. Bruce, in many cases appears to have ignored special qualifications altogether and distributed the personnel in a most haphazard way.

The question of segregation of Canadian wounded which has recently been receiving notoriety, largely through the activity of Canadian ladies in England in writing to the papers there, is very fully dealt with by Dr. Bruce. Dr. Bruce is emphatically in favor of segregation. How the Canadian wounded and ill are at present scattered about is evident from the following statement of facts:

"On August 18th of this year we had in England 12,018 cases, of whom 6,747 were overseas sick and wounded, requiring active treatment. Of these, 5,135 were being taken care of in British hospitals, and only 1,612 in Canadian hospitals. The balance of these cases had arisen locally or were convalescents. The 5,135 Canadian patients were located in 100 British hospitals, widely scattered over England, Scotland, Wales and Ireland."

Dr. Bruce sees no difficulty in segregating Canadians. The British service is able to send casualties from the Royal Flying Corps to a Royal Flying Corps Hospital, and even go so far as to send wounded Somersetshires to Bristol, so as to be near their friends. There should, therefore, be no difficulty in keeping Canadians together.

He reports that he found, both in England and France, Canadian soldiers begging to be taken to Canadian hospitals. He found also Canadian medical officers constantly complaining that although they had sacrificed their practices at home with the object of helping to take care of our soldiers overseas, yet they rarely had an opportunity of treating a Canadian patient. A map accompanying the report shows how the 100 hospitals in which Canadians are located, are scattered all over the British Isles. The cost of transport in itself is considerable. If the 5,135 Canadian patients in hospital on August 16th had been taken care of by a concentration of hospitals in the Shorncliffe area there would have been a saving in transport alone of $11,348.35.

In addition Dr. Bruce found some instances when the treatment received by Canadians in British hospitals has not always been as satisfactory as it might be, and further that nobody in those hospitals seems interested in the discharge of patients when they are fit to be sent to a convalescent home.

Special reports are given to show how this works out. In seven British hospitals in the London area and in Aberdeen, Scotland, special inspectors found 248 Canadian patients. It was found that 116 of these should have been sent to convalescent hospitals, 52 others should have been discharged as permanently unfit for further service, and 13 suffering from contagious diseases should have been elsewhere, that is to say, out of 248 Canadian patients, 171 should not have been in these hospitals at all. This illustration is thought to be typical.

Dr. Bruce says that his experience with sick people leads him to the conclusion that when they are ill they prefer to be among relatives and friends. Further he says, "I take the position very strongly that as it is our duty to see that our boys who go to the front are cared for in the best possible manner when they are wounded and sick, and as we shall ultimately be responsible for their pensions, it is imperative that we should ensure that they are under the immediate supervision of our own medical service."

As to how the present policy of distributing Canadian soldiers arose. Dr. Bruce gives the following particulars:

On June 16th, 1915, Colonel Hodgetts wrote to Surgeon-General Carlton Jones, suggesting that as special arrangements had been made for sending wounded Canadians to the Queen's Canadian Hospital, Beechborough, could not similar arrangements be made in regard to the Duchess of Connaught's Hospital at-Cliveden. Accordingly on June 18th the D.M.S. wrote to the War Office requesting that the Cliveden Hospital should "as far as possible be reserved for sick and wounded Canadians from overseas." The War Office acceded to this request, and gave instructions that Canadian soldiers (other than officers) should be sent to one or other of the two hospitals mentioned above. Later representations appear to have been made to the D.M.S. that for Imperial considerations it was advisable to spread the Canadians throughout the British Isles. On Decem-

ber 17th the D.M.S. replied, expressing the opinion that "it is conducive to the patients' well-being and comfort to be under our own administrative control."

"As a consequence of this arrangement many more Canadians found their way to these two hospitals, yet in spite of this we find that the D.M.S. on February 2nd, 1916, wrote to the War Office to ask that these instructions be amended, and in a further communication dated March 25th, 1916, stated 'that it is not now considered necessary from a Canadian point of view to make any special arrangements at Southampton for the collection of Canadian patients.' No reason is assigned for this complete change of attitude."

In this connection Dr. Bruce points out that Canada has maintained at Saloniki, where there is not a single Canadian soldier, three hospital units with a total bed capacity of 320 patients. And in France we have on an average 2,000 beds in excess of the number of Canadian patients.

Dr. Bruce also strongly complains about the lack of policy which has allowed even the Canadian hospitals to be scattered all over the country, instead of being concentrated in special localities. As a result, efficient control and inspection have been rendered exceedingly difficult and needless expense has been involved. He recalls that when the Ontario Government started to provide its splendid hospital, with a capacity of 1,040 beds, it offered to locate it at any place desired, thus affording a splendid opportunity to secure the concentration of hospitals in a definite area, with this most valuable primary hospital as a nucleus. The opportunity was let slip.

A map illustrates how Canadian hospitals have been scattered over England. Buxton is no less than 236 miles from Folkestone. Dr. Bruce recommends a concentration scheme and illustrates it also by a map. He says, however, it is impossible to make this ideal now because of the fear that present conditions do not justify the abolition of certain hospitals upon which large sums of money have been spent.

That there has been woeful laxity in weeding out medically unfits during the process of enlistment and training in Canada is demonstrated by ample evidence in Dr. Bruce's report. A Canadian pioneer draft arriving in England on June 29th,

1916, was found to have 57 unfits out of 254 of all ranks. Of 2,670 soldiers coming before medical boards from June 2nd to August 2nd, 1916, as only fit for permanent base duty, 1,340 ought never to have been at the front. Out of 1,452 discharges from the army during the same period, 816 had never got beyond England, that is 56 per cent. of the discharges had never been at the front.

Unfits in England are a great bother. They take the places on base duty of men who have been at the front and have a prior claim on any soft jobs available. Others clog up the hospitals, increasing the strain on the already overtaxed medical services. And further, Dr. Bruce points out, the question of pension arises. "Men who are discharged for a disability present on enlistment are not entitled to pension for that disability, but where pre-existing disability has been increased at least temporarily by active service, corresponding pension or gratuity must be allowed.

"In the last four months we have had over 1,000 recommended for permanent base duty from over age, with an average age of 49 to 50 years for each man. It is a common occurrence for the men, when questioned as to their given age when enlisted, to make a statement that they gave their true age as 54 or 55 years, as the case may be, and the medical officer said they would call him 41 or 42 years. In one case he was informed by the soldier that, on enlistment, the recruit on giving his proper age was told to run around the block, think over his age, and come back again.

"And again, during the last month alone (this from a report dated August 22nd) 120 boys were found in the ranks and put on permanent base duty. Their ages run as low as fourteen years."

Several pages are devoted to special cases of men who should never have enlisted. Among others, four cases from the 92nd Battalion are mentioned by name, two of them being discharged as permanently unfit and two to be put on base duty. "We have been informed, says the report, that these four men were paraded before a standing Medical Board in Canada by Capt. Maynard, and that they were recommended for discharge, but no action was taken, and they were brought to England."

One man was found with valvular disease of the heart, left hand partly cut off. He was enlisted at Edmonton.

Another Toronto man could not carry pack, suffers from vertigo, weight 105 pounds, chest when fully expanded 30½ inches; medical examiner, Capt. ———. Toronto.

Another case, discharged, congenital amblyopia, right eye vision defective, left eye vision lost. Medical examiner, Capt. ———, Toronto.

A photograph shows a boy enlisted at Pembroke, Ont., stripped, standing opposite a normal man. This boy was sixteen years of age, weight eighty pounds, had infantile paralysis, which left his legs in bad shape. He says he passed two medical boards in Canada, having been stripped on both occasions. He has never done any military duty, and has been in the hospital most of the four and one-half months he has been in England.

Another man was found to have been taken out of a tuberculosis sanitarium previous to embarkation.

Another man was blind in the right eye. His vision in the left is just about one-eighth what it should be. In other words, this man is fifteen-sixteenths blind.

Some units had as many as 25 per cent. unfits on arriving in England.

One of the over-age men was found to be 72 years old.

These are samples. The report contains fifteen pages of particulars of this kind, giving the names of the men, names of the medical examiners and full details.

Dr. Bruce recommends stringent changes in the methods of medical examination, in order that the great loss consequent upon the present system may be avoided.

Here is the wording of the headings of the twenty-three parts into which Dr. Bruce's report is divided:

1. Many soldiers are arriving in England from Canada medically unfit who should never have been enlisted.

2. The system of disposing of casualties from the front to Imperial hospitals in England, Wales, Scotland and Ireland is extremely unsatisfactory.

3. The present method of having Canadian hospitals scattered over such a large area is very objectionable.

4. There is unnecessary detention in hospitals. There has been no medical inspection by the Canadian Medical Service of Canadian soldiers in Imperial hospitals, and there has been no efficient medical inspection of Canadian hospitals, in consequence of which Canadian soldiers are retained in hospitals in Great Britain, many of whom should have been returned to duty, and others should have been returned to Canada, where they could have been more economically and efficiently treated. The lack of system permits of the aimless moving of patients from hospital to hospital.

5. The use by the Canadian Service of Voluntary Aid Hospitals is very undesirable, as they are inefficient, expensive and unsatisfactory.

6. The administration of the group of fifty-seven Voluntary Aid Hospitals under Shorncliffe Military Hospital by the Canadian Medical Service is unsatisfactory and expensive.

7. The present method of operating, jointly with the Red Cross, certain hospitals built and equipped by them is unsatisfactory. Such dual control is undesirable.

8. Impropriety of detailing Canadian Army Medical Corps personnel to Imperial hospitals and still retaining them on a Canadian pay-roll.

9. Unsatisfactory situation at Shorncliffe owing to our Canadian A.D.M.S. acting in a similar capacity over a large area for the Imperial authorities.

10. No attempt has been made to restrict surgical operations which produce no increased military efficiency.

11. The installation of an expensive plant at Ramsgate was inadvisable, as a large number of the cases treated there should be sent to Canada for treatment.

12. The establishment at Buxton of a special hospital for the treatment of rheumatics was ill-advised, as the majority of rheumatics will not be fit again for active service and could be better and more cheaply treated in Canada.

13. The present system of handling Canadian venereal patients is very strongly condemned.

14. The method of handling infectious diseases is most unsatisfactory.

15. Medical boards which regulate the classification of casualties are not available.

17. The exceedingly important question of pensions, which will involve the expenditure of large sums of money by Canada annually, has been neglected by the Canadian Medical Service.

18. Lack of co-ordination in the Canadian Medical Service between Canada, England and the front.

19. The medical personnel is not being used to the best advantage.

20. The policy of the department has been opposed to the use of experienced medical and surgical consulting specialists.

21. Discontent concerning promotions, especially in regard to regimental medical officers serving at the front.

22. The Canadian Army Medical Corps Training School in England has never been properly organized, although of the greatest importance to the Canadian Medical Service.

23. In the operation of the Medical Service sufficient regard has not been paid to economy in management.

WESTERN UNIVERSITY HOSPITAL UNIT

THOUGH the Western University of London, Ont., has had no organized body of men representing it in this war, till the formation of the Hospital Unit, already over fifty of their medical graduates are at the front. But this spring a committee of the faculty sent out a circular letter to all the remaining medical graduates asking them if they were desirous of going with the unit if it were formed. Twelve medical officers were needed to fill the positions. Seventy offered themselves.

Dr. Braithwaite, the president, and Dr. Edwin Seaborn were delegated at a meeting of the faculty to wait upon the Hon. Mr. Kemp (then acting Minister of Militia) to ask if there was a need of medical officers and hospital units. If the reply was in the affirmative, they were to offer a unit on behalf of the university.

This was done, and the offer was heartily accepted by the Government, with the request that the preparations for departure should be made as soon as possible.

The command of the unit was given Lieut.-Col. Edwin Seaborn, M.D. He was born in Quebec, and his mother was a French-Canadian. But his connection with the university is a long one, for his father was professor of natural science there, and a member of the Senate, and he himself took his medical course at the Western, graduating in 1895, and beginning to teach in the Medical School that same year. He has been in practice in London for 21 years. His wife is the charming daughter of the late Dr. Bucke.

Lieut.-Col. Seaborn is fortunate in having three brothers who are also doing their share for king and country. Lieut-Col. Walter Seaborn is in command of the 210th (Moose Jaw) Battalion. Capt. George Seaborn is at present in France with the A.M.C., while Lieut. Vivian Seaborn is in the paymaster's office.

The establishment of the unit (which is a four hundred-bed hospital) is fourteen officers (twelve qualified medical men) one hundred and twenty N.C.O.'s and men, and twenty-seven nursing sisters.

Recruiting was brisk from the moment the office was opened, and the establishment might have been filled twice over. The men accepted are an exceedingly fine lot. There are a great many London men among them, but also a large proportion of men from the western Ontario district. They represent many phases of civil life.

The men were billeted and trained on the college campus or in the college buildings.

Their training consisted (as does that of all medical units), of squad, stretcher and company drill, and they were given lectures by the officers on anatomy, asepsis, fractures, hemorrhages, treatment of wounds, bandaging, infections, antiseptics, treatment of poisons, emergencies, as well as the care of the feet, and personal hygiene.

The citizens of London feel particularly interested in the Western University Hospital Unit, as being especially representative of both the town and the district. The local Red Cross

supplied them with all the medical, surgical and hospital supplies that they required over and above the Government supply. This gift cost about ten thousand dollars, and filled five hundred boxes.

A motor ambulance has also been given by the London Red Cross branch, the money having been raised by the tea-room committee.

Mrs. W. G. Nott, through the Red Cross, gave a cheque for one hundred dollars, to be used for special surgical instruments and supplies. Miss Balch, on behalf of the A.Y.P.A., of St. John the Evangelist Church, gave fifty dollars towards the purchase of band instruments.

The Meredith Dramatic Company gave a donation of two hundred dollars towards a motor car for the use of the unit. A good many donations were also made towards the special emergency fund of the unit.

This unit also took up the matter of insurance rates with the various companies that have agencies in London. This was to allow the men who enlisted to continue their insurance at pre-war rates, instead of paying an extra premium. The companies have responded very generously.

The unit left London on the 18th of August, and at present is in Shorncliffe for special training.

Everybody—in the prehistoric times before August, 1914—has watched the sham battles of the militia units during their twelve days' yearly training under canvas. Most of us have enjoyed the story of the captain who was marching his mounted men over a bridge when an irate lieutenant (belonging to the opposing forces) rose up from the shadows of the river bank in front and shouted:

"Hi, there! Stop! Don't you know we've just blown up the bridge?"

"You silly ass," says the captain, calmly continuing on his way, "can't you see we're swimming?"

But to-day there is less of pretence in the game. Even out here in the sunshine those imaginary wounded at the other end of the field suggest only too strongly those real wounded who have really waited for the stretcher-bearers in farther fields, when the stretchers have had a longer road to travel. When the

men, who are marching in close formation, change quickly to extended order, it takes very little effort of the imagination to realize that it is because they are under shell fire.

London people feel assured that the men of the Western University Hospital Unit will take their share of the Red Cross work satisfactorily.

KATHLEEN K. BOWKER.

MINNEWASKA SANITARIUM, GRAVENHURST

ONE of the problems which the Hospitals Commission has had to solve is that of providing for the care of the man in whom German gas, exposure in the trenches or training camps has developed tuberculosis. These men, no less than the man who has fallen, have offered their lives for their country, and their country's duty is to see that every means is used to give them back the health they have sacrificed for it. Their condition demands special treatment and isolation from other Military patients. In the absence of Military Hospitals for tubercular men, the Commission has arranged for their treatment in established institutions. One of these is the Minnewaska Sanitarium at Gravenhurst. There some sixty men have been placed during 1916 for treatment. Minnewaska Sanitarium is situated in a finely wooded ten-acre plot overlooking Gravenhurst Bay and lacks nothing in beauty of site or climatic condition. The Institution has been in successful operation for several years as a Private Hospital under the Superintendency of Mrs. Fournier, who is still in charge and whose experience has produced excellent results in the patient. The Institution is at present occupied almost entirely by soldiers, who began to be sent up in March last. Capt. Procter, M.D., and Lieut. Gillis, M.D., are in charge, both in a military and medical sense. It is hoped that the Hospitals Commission will ere long be able to erect a wing to the Sanitarium where vocational training may be given the patients.

MILITARY HOSPITALS REPORT SUBMITTED

Important changes may be made in the military hospitals of Canada as the result of a report which has just been submitted to the Militia Council by Colonel F. W. Marlow, Assistant Director of Medical Services. During the past two months Colonel Marlow has visited every part of the Dominion and inspected every branch of the medical service in the ten military districts of Canada. It is understood that important recommendations were made in connection with the medical branch of the army, and especially in respect to the care of returned disabled soldiers. It is not improbable that wounded Canadians will be sent back to Canada from Great Britain much more promptly than they have been coming back in the past. This departure has been recommended by Colonel Herbert Bruce, and it is not unlikely that the plan will be adopted, the notion prevailing that men who are disabled for nine or ten months may as well be treated in Canada as in Britain. It is believed by medical officers that this system, together with the plan of segregating the Canadian wounded, would result in a saving of money and insure closer control of the convalescents. In the event of the recommendations of Colonel Bruce being adopted the military hospital accommodation in Canada will have to be greatly extended.

HOTEL SANITA, CHATHAM, ONT., SECURED BY THE CANADIAN MILITARY HOSPITALS COMMISSION

An option has been secured by the Canadian Military Hospitals Commission on Hotel Sanita. The hotel is connected with a mineral bath house, the efficiency of whose waters is very generally known, and the Commission feels that these would prove beneficial for some of the returning soldiers troubled with rheumatism. Archie Park, the principal owner of the hotel, does not state what the price is, but is satisfied with the terms. The Commission has also purchased a hotel at Preston. It is expected that a large force will be engaged in the baths and the hotel, and that many soldiers will be kept here. The proximity of Tecumseh Park is an added recommendation.

NEW RED CROSS HOSPITAL AT RAMSGATE

The Canadian Red Cross Society has leased and is fitting up St. Lawrence College at Ramsgate as a convalescent hospital, with accommodation for one thousand beds. It will bear the name of Princess Patricia. This will be turned over to the Canadian medical services to furnish the staff and operate it. A new departure in connection with the latest reforms is that all such hospitals will be operated by the medical services, the Red Cross continuing to be responsible for the buildings, the general fabric and the supply of motor ambulances, but the feeding of the patients will be undertaken by the medical authorities. This is not intended as a reflection upon the Red Cross, but only as an economic reform which will at the same time leave the Red Cross free to develop its work as regards the provision of comforts.

CHATHAM OFFICER HONORED

In the Sanita Hotel, on November 2nd, Capt. Murray Patterson, a Chatham officer, who has been spending a month's furlough at his home here, was banqueted by the Canadian Club and members of local bodies. Captain Patterson, who is attached to an English regiment as medical officer, was recently awarded the Military Cross for distinguished conduct in the field.

SUCCEEDS COLONEL NASMITH

Captain Arthur W. M. Ellis, son of Professor W. H. Ellis, Dean of the Faculty of Applied Science at Toronto University, has been appointed to succeed Colonel G. G. Nasmith, C.M.G., as officer in charge of the sanitation of the Canadian Overseas Camps. He will be assisted by Captain George Campbell, also of Toronto. Captain Ellis was on the staff of the Rockefeller Institute, New York, when the war broke out. He joined the C.E.F. at Valcartier and went Overseas with the First Contingent. At Salisbury Plains he had charge of the spinal meningitis cases.

CAPTAIN HARLEY SMITH PROMOTED TO MAJOR

We extend hearty congratulations to our esteemed confrère, Capt. (Dr.) Harley Smith, of Toronto, now "doing his bit" at the Ontario Base Hospital, Orpington, on his recent promotion to the rank of major.

TWO MORE DOCTORS ARE HONORED

Information has been received in Toronto that Lieut.-Col. (Dr.) E. B. Hardy and Capt. Howard B. Jeffs, son of Dr. W. H. Jeffs, 2761 Yonge Street, have been honored for distinguished service in the field. Colonel Hardy has been awarded the D.S.O., while the Captain has been given the Military Cross.

Both officers served in No. 2 Field Ambulance. Doctor Hardy went to the front with the First Contingent, and has been mentioned for signal service before.

Captain Jeffs is at present at home recovering from wounds in the arm, right leg and both hips. His leave extends to January 16th, when he is to report at Shorncliffe. He was wounded on September 6th and reached home a short time ago. He is well known in sporting circles in the northern section of the city, having played on Varsity team. He also organized and founded the old North Toronto Football Club. He graduated in medicine two years ago.

LIEUTENANT DAVIDSON MISSING

Lieut. George Thorold Davidson, reported missing a few weeks ago, is the only son of Dr. and Mrs. Alex. Davidson, of St. Clair Avenue. At the outbreak of war he enlisted as a private with the Calgary Rifles and went overseas with the First Contingent. After being at Salisbury Plain for several months, he was given a commission by the Admiralty, and served with the naval patrol in the English Channel.

After the battles of Ypres and St. Julien, where so many of his friends were killed or wounded, he again made application to the Admiralty for service that would bring him more into contact with the enemy, and was granted a commission in the Royal Naval division (an Imperial division trained in both military and naval service) and was in training at the Crystal Palace and Blandford Camp, upon the completion of which his unit was sent for service to the Dardanelles on Gallipoli. Upon arrival at Mudros, on the Island of Lemnos, it was found that the order had been given for the evacuation of Gallipoli. He

then served for some time on outpost duty on the Island of Tenedos, in the Aegean Sea.

In May of this year his division was brought back to France, and has been serving with the B.E.F. in the Somme front, bombing and hand-grenading for the past three or four months, where he is now reported missing. In his last letter home he stated that he had been within fifteen yards of the German trenches.

Prior to enlistment Lieutenant Davidson practised law in Medicine Hat, the firm being Davidson, Bell and O'Neill. He was educated at the Model School, Harbord Collegiate Institute, University of Toronto, and Osgoode Hall.

CAPT. ALFRED HAYWOOD IN CHARGE OF HOSPITAL

Captain Alfred Haywood, for two years Medical Officer of the 3rd (Toronto) Battalion, has been promoted and given command of the Canadian Convalescent Hospital, Woodcote Park, Epsom, England, which has accommodation for 2,500 patients. Previous to the war Captain Haywood was Assistant Superintendent of the Toronto General Hospital.

APPOINTMENTS AND TRANSFERS

Major Charles Carter has been appointed Deputy Assistant Director of Medical Services in charge of the troops at Hamilton, Brantford, St. Catharines and Niagara Falls, with the rank of temporary lieutenant-colonel. His staff officer will be Captain V. Ross. Captain J. Z. Gillies is transferred from the School of Musketry to A.M.C. Training Depot No. 2. Lieut. C. V. Shuttleworth is promoted to the temporary rank of major while acting as senior medical officer in charge of surgical services at the Base Hospital, Toronto. The following are appointed to the A.M.C. Training Depot No. 2, with the rank of captain: Lieut. H. B. Hetherington, Lieut. J. E. McLean, Lieut. W. H. Dudley, Lieut. J. D. McLean, Capt. A. A. Campbell, Lieut. A. A. Parker, Lieut. C. A. Campbell, Lieut. J. Z. Gillies, Lieut. R. M. Janes.

LONDON PHYSICIAN GETS IMPORTANT POST

The important position of head of the surgical section of the Ontario Military Hospital at Orpington, England, has been proffered to Dr. Haley Williams, R.C.S., of London, Ont., who has accepted. Doctor Williams, who is one of Canada's foremost surgeons, is senior clinician of the Western University Medical Department, and on the staff of both hospitals at London. The new appointment carries with it the rank of lieutenant-colonel.

A CANADIAN MEDICAL SOCIETY AT BRAMSHOTT CAMP

A society to be known as The Medical Society, Canadians of Bramshott Area, has been formed by medical men on military duty at Bramshott Camp, England.

There are about sixty Canadian medical men stationed at this point, and at the suggestion of Col. Lorne Drum, the A.D.M.S. of the Area, a society for the presentation and discussion of purely medical subjects was formed.

The following are the officers:—Hon. President, Col. L. Drum, Ottawa; Hon. Vice-President, Major C. A. Young, Ottawa; President, Capt. J. Graham, Mona Road, Ont.; Vice-President, Major J. A. Dickson, Hamilton; Secretary-Treasurer, Capt. G. M. Hanna, Brantford. Executive Committee—Capt. J. Moore, Brooklin, Ont.; Capt. Thomas, Vancouver.

Sir Arbuthnot Lane was recently a guest of the society and presented a paper on "Intestinal Stasis."

Arrangements have been practically completed between the Military Hospitals Commission and the Ontario Government for the handing over by the Government of the Hospital for the Insane at Whitby to the Commission. It is expected that when the buildings are completed the institution will be the central point for soldiers suffering from shock, and that the institution will be able to take care of 1,200 men. All the men of Military Division No. 2 will be located here.

CAPTAIN R. E. HORKINS KILLED

Word was received on October 16th from the British War Office that Capt. R. E. Horkins, M.B., formerly House Surgeon at St. Michael's Hospital, was killed in action two weeks ago. Capt. Horkins was a son of Mr. and Mrs. T. J. Horkins, of Campbellford, Ont., and graduated in the Faculty of Medicine, Toronto University, in 1912. He was twenty-seven years of age. Capt. Horkins was one of the thirty-five Canadian medical men who went Overseas some time ago to take Commissions in the Royal Army Medical Corps. He was transferred to the 77th Howitzer Brigade, Royal Artillery, and had been ten months in that Branch of the Service when he met his death.

TORONTO SURGEON KILLED IN ACTION

Lieut. Stanley Arthur Walker, Medical Officer of the 12th Cheshire Regiment, Imperial Army, and son of Rev. George Walker, 43 Summerhill Gardens, Toronto, was killed in action while in the front-line trenches at the Somme on October 15th.

Lieut. Walker was twenty-six years of age, and enlisted in the Royal Army Medical Corps last November, leaving Canada for Overseas on November 11th, 1915. Seven months ago he went to France, and in one of his last letters he stated that he had been constantly in the trenches for twenty-two days. Lieut. Walker graduated in Medicine from the University of Toronto in the spring of 1915. Shortly after he was appointed to be a House Surgeon at the Toronto General Hospital, and he resigned that post to go Overseas.

Captain A. Grant Fleming left for overseas on October 28 in charge of a draft from the A.M.C. training depot at Camp Borden. Captain Fleming had charge of the camp laboratory staff, and previous to enlisting was the bacteriologist in the city Medical Health Department for over eight years. The laboratory staff at the City Hall and the Gerrard Street Base Hospital staff presented him with a wrist watch and set of pipes previous to his departure for overseas.

Col. (Dr.) H. A. Bruce, of Toronto, who was recently promoted to be Surgeon-General, took charge of the Canadian Medical Service at London on October 16th. It is understood that Surgeon-General Jones will return to Ottawa any time.

Dr. A. B. Osborne, of Hamilton, has been promoted from captain to lieutenant-colonel.

Colonel (Dr.) D. King Smith on the staff of the University Base Hospital at Saloniki, is home on two months' leave.

Dr. Clarence Starr, of Toronto, has been appointed Lieutenant-Colonel of the Canadian Medical Services in charge of orthopedic work at Ramsgate.

Captain Dr. W. A. Henderson, of Sarnia, recently back from a year's service in England with the R.A.M.C., died suddenly while driving his motor car.

Lieutenant-Colonel Shillington, Ottawa, has been appointed A.D.M.S. at the training division at Shorncliffe, succeeding Lieutenant-Colonel F. W. Wilson.

Major C. H. Gilmour, at present Chief Surgeon, Royal Army Hospital, Bramshott, has been promoted to be Lieutenant-Colonel. Lieut.-Col. Gilmour is a son of Dr. J. T. Gilmour of the Ontario Reformatory and has been in continuous service since the war commenced.

Lieut. (Dr.) Edgar Harold McVicker, R.A.M.C., 71st Wessex Field Ambulance, was killed in action on September 9th. Dr. McVicker was temporarily attached as Medical Officer with the 75th Battalion, Lancashire Fusiliers, and was the only son of Mr. and Mrs. Samuel McVicker, 855 Manning Avenue, Toronto. He was twenty-three years of age.

The Kitchener Tuberculosis Sanitarium at Freeport will be handed over to the Military Hospitals Commission of Ottawa for a term of years to accommodate tubercular soldiers. The use of the buildings has been offered to the Commission and has been officially accepted. Arrangements will be made by the Commission for the accommodation of from sixty to seventy patients.

News of the Month

AMERICAN PUBLIC HEALTH ASSOCIATION

About one thousand physicians, health officers, social workers and others interested in public health attended the forty-fourth annual convention of the American Public Health Association at Cincinnati the last week of October. Dr. F. Montizambert, Director-General of Public Health for the Dominion of Canada; Dr. E. P. Lachapelle, President of the Provincial Board of Health for the Province of Quebec; Dr. C. J. C. O. Hastings, Medical Health Officer for the City of Toronto, and Dr. J. W. S. McCullough, Medical Health Officer for the Province of Ontario, attended the meeting.

A SIX YEAR COURSE FOR MEDICAL STUDENTS

At a meeting of the Senate of the University of Toronto, held on October 13th, it was decided that after July, 1918, the course of study for undergraduate students at the Faculty of Medicine in the University of Toronto will be six years instead of five as at present. By doing this our national University has adopted a course of study already taken up or being taken up by many of the first-class Medical Colleges in both the United States and Great Britain. What changes in the curriculum will be made to spread the studies over another year has not as yet been exactly determined. We consider that the move of the University is an exceedingly wise one, as it will undoubtedly give the students a broader and more comprehensive knowledge of the whole subject of Medicine. Whether the standard of entrance will be raised has not as yet been decided, though it is understood that the first year subsequent to July, 1918, will really be what is known as a pre-medical year. In some quar-

ters there has been an agitation to make graduation the standard of entrance to Medicine, as in the case of the Johns Hopkins College. As far as known at present, the course of study in Physics, Chemistry and Biology will be considerably amplified.

HAVE PASSED COUNCIL

Dr. R. W. Powell, of Ottawa, Registrar of the Medical Council of Canada, announces the following as the list of candidates, arranged alphabetically, who have successfully passed the Examinations of the Council, which were held in October in Montreal, these Medical Graduates having won the Degree of L.M.C.C.:

G. C. Anderson, Central Square, New York, N.Y.; V. Blakeslee, Kingston, Ont.; G. F. Downing, Montreal; C. K. Church, Aylmer, Que.; L. Garand, Montreal; N. M. Guion, Ottawa; G. Hodge, Cornwall, Ont.; I. M. F. Malone, Three Rivers, Que.; I. A. MacMurchy, Kearney, Ont.; J. J. MacPherson, Port Daniel, Que.; R. Michaud, Sturgeon Falls, Ont.; C. H. McCreary, Montreal; S. R. McGregor, New York; R. Oliver, New Westminster, B.C.; I. Patterson, Chicago; W. R. Stackhouse, Blyth, Ont.; A. M. J. Tanney, Iroquois, Ont.; W. E. Williams, Montreal.

THE GEORGE BLUMENTHAL SCHOLARSHIP

Distinct additions to the knowledge of diabetes have been made through the work of Dr. H. Rawle Geyelin under the special George Blumenthal scholarship of $900 in the School of Medicine of Columbia University. During his incumbency of this scholarship in the last three years he has been doing research work along clinical lines particularly in diabetes, and has published four valuable articles on metabolic diseases, one in conjunction with Dr. Dubois. Five beds have been set aside for this special study. Special attendants and a special trained nurse take care of these patients, and a branch of the kitchen

department has been set aside for the preparation of their food. The work in diabetes has developed under the Blumenthal fund into a special clinic and the patients of the Vanderbilt Clinic are also used in this connection, so that the disease has had the most thorough and systematic study. In order to give Dr. Geyelin academic standing he has received an academic appointment as assistant, and, at his earnest request, has been allowed to give instruction in the special work he is carrying on, as it is believed at the college that research in clinical medicine is stimulated and kept at a high grade of efficiency only by associating with it a certain amount of teaching, which places the instructor under the stress of meeting the eager inquisitiveness of the advanced and earnest undergraduates.

In addition to this scholarship, there have been in the last two years, paid from the same fund, three undergraduate scholarships of $250 each, and there will be four in the coming scholastic year. The students who receive them are all high-stand men, and work as special assistants in the laboratories. These scholarships are much sought after and aid materially in the research work of the department. Students holding them in the third and fourth years are also used as assistants in laboratory teaching, and this association with the students of the lower classes is much appreciated by the incumbents. The holders of the scholarships in 1916-17 are: Lorrin Andrews Shepard, physiology; Thomas Trovillo Sheppard, physiology; Adolf Frederich Herrmann, anatomy; and Lee Hollister Ferguson, neurology.

PERSONALS

Dr. Hamilton Biggar, of Cleveland, an early graduate of Victoria, has given $5,000 to found a scholarship at Victoria University, Toronto.

Dr. R. D. Lane, of Priceville, has located at Flesherton, succeeding the late Doctor Carter, who practised there many years.

Dr. Harold Ball and Mrs. Ball left on October 25th for England. Doctor Ball will be attached to the Medical Staff of Moore Barracks Hospital, Shorncliffe.

Obituary

DEATH OF DR. HEWARD YORKE

Dr. Heward Yorke, formerly Resident Surgeon at the Western Hospital, Toronto, died on October 22nd at Watford, Ont., at the home of his father, Lieut.-Col. I. E. Yorke. Dr. Yorke, who was only twenty-eight years of age, was a victim of heart trouble. He was a brilliant student and gave promise of a successful career in medicine. He graduated in medicine at the University of Toronto, and after attending McGill University served at the Western Hospital for a year. He subsequently graduated from the Medical Department of Columbia University, New York, and was engaged in post-graduate work in New York hospitals when his health broke down.

DEATH OF SIR VICTOR HORSLEY A GREAT BLOW TO MEDICAL SCIENCE

As intimated in a previous issue of *The Journal,* Sir Victor Horsley died in July from heat stroke while serving as a consultant with the forces in Mesopotamia. Sir Victor volunteered for service in Mesopotamia last March, after he became aware of the bad conditions prevailing. His patriotic and unselfish offer was accepted, and he left at once for India, from which country he went to the scene of operations. At first he was stationed at the base at Basra, but within a short period he passed up to Amara, where, it is stated, his death took place.

All those who were privileged to know the late surgeon will feel that this last sacrifice for his country was but the consummation of a life full of sacrifice and generous patriotism.

Sir Victor did not consider his years when the chance of being useful offered itself, and the welfare of our soldiers was his first anxiety. Very early in the war he was in France on behalf of the British Red Cross Society, and later, on being gazetted Colonel, he was sent to Egypt as a consultant by Sir Alfred Keogh. He had served also in the Boer War.

Sir Victor Horsley was not only a very distinguished surgeon; he was a pioneer in the field of scientific medicine, one of those rare men who seek out new paths into the unknown, and lay there foundations on which all those who follow after must build. His work on the surgery of the brain belongs to this category, as also does the experimental study of the ductless glands, which he carried out with so great eagerness and enthusiasm. In 1884, for example, he proved by experiment that the disease myxedema was caused by absence of the thyroid gland. It was his generous custom to invite other workers to his laboratory and to place his resources at their disposal; he would carry out all the delicate manipulations necessary at the request of any colleague, and would then resign to that colleague all the credit of the work accomplished.

Supreme in his own sphere, Sir Victor took an active interest in social questions. His abhorrence of alcohol and his efforts to restrict the sale and use of it are well known. Not less well known at the time was his championship of the women suffrage movement. He contested the University of London as a Liberal, and was prospective candidate for Market Harborough on temperance and woman suffrage lines, though on these grounds he was afterwards refused the support of the officials. He was Vice-Chairman of the London County Council Sub-committee of Inquiry into the Medical Inspection and Treatment of School Children, and also Vice-President of the English League for the Taxation of Land Values. His strong personality and unyielding adherence to his convictions frequently brought him into collision with his opponents, but none ever denied to him the meed of respect and honor, for above all things he was a man.

Honors were showered on him by almost every university and learned society in the world. In 1885 he was secretary of the Royal Commission on Hydrophobia; from 1891 to 1893

he was Fullerian Professor at the Royal Institution; from 1893-1896 he was professor of pathology to University College. He was first medallist of the Lannelongue International Prize in Surgery in 1911; Royal Medalist of the Royal Society; LL.D. and D.C.L., Montreal and McGill University; Foreign Associate of the Academy of Medicine, Paris, of the Academy of Wissenschaft, Berlin; member of the Science Society of Sweden in succession to Lord Lister; member of learned societies in Rome, Petrograd, Budapest, Vienna and Philadelphia. He was awarded the Cameron gold medal and the Fothergill gold medal, and was first chairman of the representative meeting of the British Medical Association. He held the post of surgeon to the National Hospital for Paralysis and Epilepsy in 1886, and was emeritus professor of clinical surgery and consulting surgeon at University College Hospital, where he received his medical education. Born in Kensington in 1857, he was fifty-nine years of age at the time of his death. He was the son of the late J. C. Horsley, R.A., and married, in 1887, Eldred, third daughter of Sir Frederick Bramwell, who, with two sons and a daughter, survive him. He held the degree of M.D. (Halle) and was a Fellow of the Royal College of Surgeons and of the Royal Society. In 1902 he was knighted.

ORANGEVILLE PHYSICIAN CALLED BY DEATH

Dr. James Henry died at his residence at Orangeville, Ont., on October 30th, as the result of a paralytic stroke. He had a long, useful and active career and was an outstanding figure for more than half a century in Orangeville and vicinity. The son of Dr. Thomas Henry, a native of Ireland, and a graduate of the University of Edinburgh and Trinity College, Toronto, deceased was born at Sandhill, in the township of Albion, in the county of Peel, seventy-three years ago, and, entering the Toronto School of Medicine, graduated from the University of Toronto in the year 1863.

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